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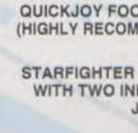
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Do you think that computer artists are born with their skills? Our six page art tutorial starting on page 28 coupled with the Paintpot art program on the cover should make you think again!

ST REVIEW ISSUE 6
OCTOBER 1992

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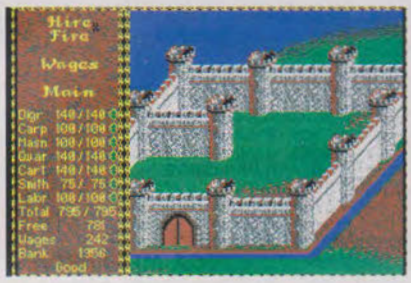

The long awaited convertion of Castles from the PC to the ST has taken a long time. Now you can see if that wait was worth it. Conversely, after seven years of development, Championship Manger is now out and ready to play to a packed stadium..

ON THIS MONTH'S COVERDISKS

TOP QUALITY COMMERCIAL ART PACKAGE

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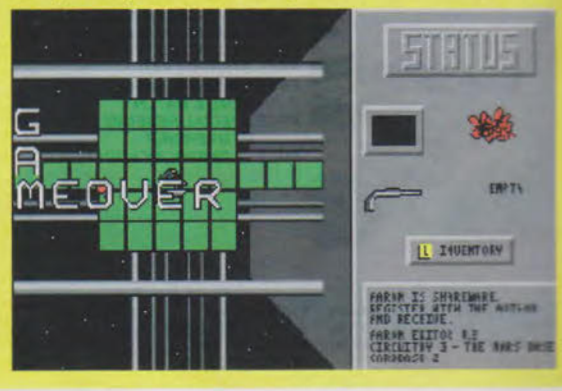
KRASKA – Creates psychedelic patterns
And a host of others – 22 programs in total!!



(top to bottom) On disk! What can be achieved with out Paintpot tutorial! (top to bottom) On disk! Complete space adventure game Aaron – Free!!

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WIN A TOS 2.06 UPGRADE!!!
GET WITH IT! TURN TO PAGE 135

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One powerful, yet easy to use and complete commercial art package, an exclusive game or two and tons of accessories. With 22 programs in total, you can't possibly get better value anywhere else!

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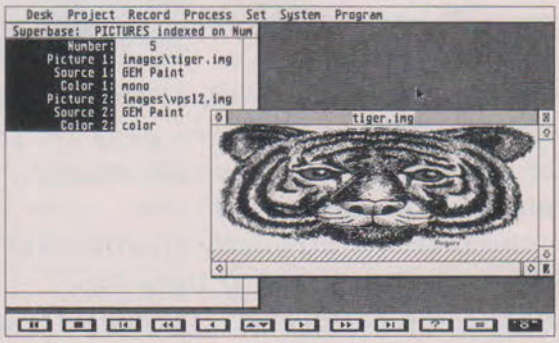
ADD TO YOUR COLLECTION
WIN LOADS OF GAMES!
TURN TO PAGE 100 TO ENTER

Hand scanners on test. We test the top three...



Databases never looked this good. Sort out page 55

SCREENSCENE

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ST BUYER

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NEWS FLIGHT

Welcome to Britain's biggest and brightest ST magazine.

I'm sure that all of you will have a great time this month with the fabulous art program Paintpot - free on this month's disk.

There's a six page Paintpot and computer art tutorial that begins on page 28, so all of you will be able to create masterpieces in no time at all.

And there's a distinctly creative feel to the issue as we look at Desk Top Publishing peripherals. On page 41, we begin our look at the latest selection of laser printers costing less than £800. We'll be looking at what they can do, what they cost to run and most importantly, which offer best value. And after all that, we're even giving you the chance to win the laser printer that came out top in our tests... See page 46.

Continuing the theme of publishing, we also look at the top three hand scanners — ideal for DTP and used to capture graphics and pictures: what do they do, how do they do it and once again, which one is the best buy?

People who want to upgrade their machine should find the review of TOS 2.06 on page 51 of interest, and any ST touch typists should definitely have a look at the Step-by-Step keyboard upgrade on page 64.

Want to get organised? This month we look at databases All you need to know and more, starting on page 55.

And there's more yet ... Six pages of PD Zone looking at educational programs, new games and a host of utilities software. Powering Up Your St on page 116, looks at Macros. This issue is packed so why not come inside an join the fun?

GARTH SUMPTER
EDITOR

THE LAUNCH OF THE FALCON

The Falcon has finally taken to the skies. Its launch, amid much excitement from ST owners and the consumer computer press alike, heralds what Atari term, "The birth of the true multi-media machine". Garth Sumpter left his nest, and flew to Düsseldorf to get his talons into Atari's machine....

The launch of the Falcon has kept the assembled and hackneyed throng of the British computer press in a state of unusually heightened paranoia now for the last three months. Many articles that have appeared over that time seem to have more in common with the tabloid astrology columns than with the world of hard-nosed technical journalism, as each magazine has used what information they could find, to feed a public hungry for the latest news.

However, now that the Falcon has finally hatched amidst a flurry of feathers and carnivorous, journalistic back-biting, the Atari eggshell that previously held off most of the attentions of the press, has finally shattered to reveal a machine that holds all the companies hopes for the future.

The Falcon is not the leading edge of technology. However its high specification is a fusion of existing multi-media technology with each element being highly proficient in its chosen field. The real trick, which Atari seem to have accomplished, is to fuse the elements of computing, sound, video and graphics into one, symbiotic unit and it is with that fusion that the real technical achievement of a true, multi-media machine lies.

Atari seemed to sum up the mood of their achievements at the press conference where they explained their plan for a true, multi-media machine. According to Atari, mult-media is: "Broadcast quality video images, photographs, CD quality sound - Images of reality that are are as good as the eye can see and the ear can hear. Better models of the real world. That is what Multi-Media is. Models of the real world that can relate and communicate. That's what Atari's vision of the future was when they started developing this product and that's what Falcon 30 is today".

"Broadcast quality video images, photographs, and CD quality sound - Images of reality that are are as good as the eye can see and the ear can hear. That is what Multi-media is."

But what lies beneath the polished rhetoric? Well, if you rip away Atari's glitzy launch in downtown Düsseldorf and throw back the Falcon's ST housing, what you have are the guts of the machine that's the world's first true, mass market, multi-media computer.

NEW DESIGN

The internal architecture of the machine is not just an upgrade of the ST, but has been designed from scratch. The pulsating heart of the beast however, is the Motorola 68030 chip, running at 16MHz and backed up by an ST compatible Blitter which helps to move the Falcon's stunning graphics. The single, most fundamental item in the Falcon's nest of chips though is Motorola DSP (Digital Signal Processor). This runs at 32MHz and is a micro chip that is dedicated to

OF FREEDOM

The Atari conference drew a gaping crowd of journalists that uncharacteristically out numbered the speakers by 10 to 1.

Even Atari's president, Sam Trameil, was captivated by the impressively frank rundown of the Falcon's internal components .

manipulating digital signals. This means that the Falcon will be able to process digital data at up to 35 million instructions per second (mips), and with a socket for the addition of a maths processor and its improved modem facility, the Falcon should be able to fulfil Atari's claim of being able to be used as a video phone.

SOUNDS GOOD

Audio was always a strength of the ST, and with the Falcon, the aural offerings begin with a stereo microphone socket and sound even better with the addition of a stereo headphone socket, and chip gives 16-bit, 8-channel sound with four stereo channels . The DSP runs in real time too, meaning that effects can be processed as input is received. This means that you can speak into a microphone, and the sound of the real-time video image of you on screen can be altered in all manner of quirky manners — so that your voice is higher, lower or that you sound as if you're talking down a long pipe.

PICTURES

In order for the Falcon to come up to scratch as a true, multi-media machine, the video side has been developed to a high-flying standard. A true colour mode has been incorporated which will give a capability of over 65,000 colours on screen and, coupled with overscan (which lets you use the whole screen - no black borders), and the ability to use standard VGA monitors if wanted, means that the Falcon will become the machine for the video market, both amateur and professional alike. It has a built-in GenLock and a unique overlay mode which can be used to make adding titles and special effects effortless.

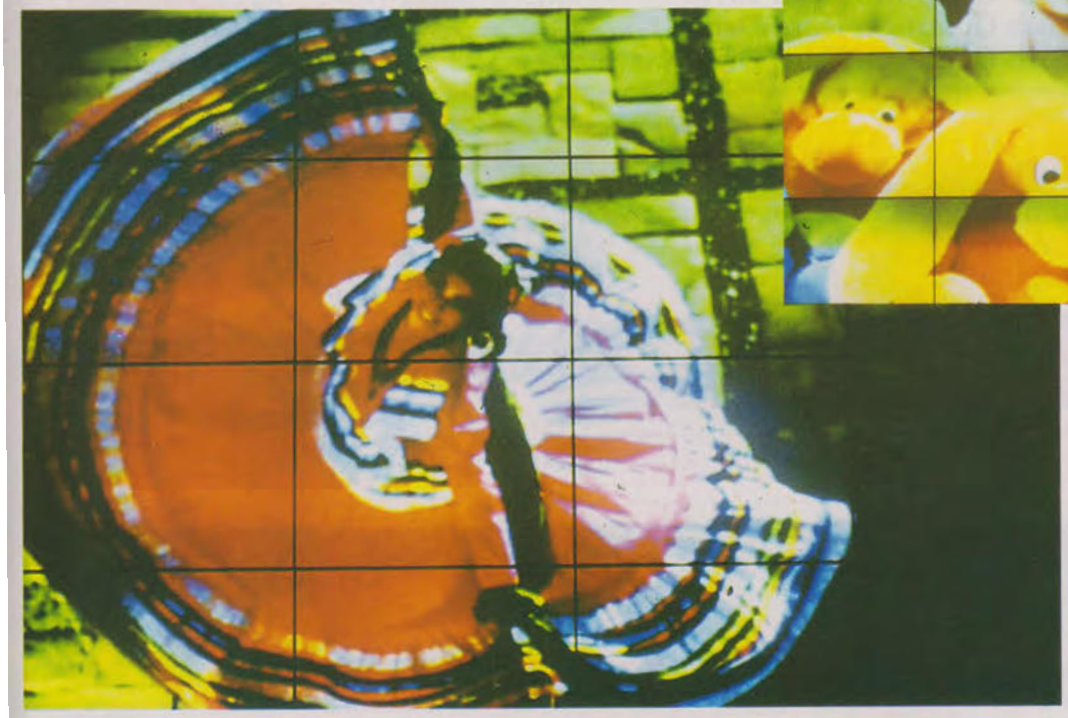
MARKET MATTERS

All of these factors, whilst admirable, remain academic unless the Falcon has had the vision to address a market that really wants it. The machine's true potential for multi media should help it to address both new markets and to address existing ones with added aplomb.

WHERE AND WHEN?

The Falcon is already in production in Taiwan and dealers are expecting their first shipments in September although large quantities are not expected until the new year. Although the pricing policy for the Falcon has, in true fashion of the genre, risen, hovered, swooped and shown an amazing aptitude for acrobatics, it seems to have finally come to roost. The latest figures at the time of writing are for two versions: a one megabyte version at £499 and a four megabyte version that comes complete with a 64 megabyte internal hard drive for £899.

The Falcon has been heralded as a true, multi-media machine. We must now wait to see if a multi-media machine has been launched into a market where it can truly take off.



At the Düsseldorf show, Atari went to great lengths to show the graphics and sound capabilities of the Falcon to the assembled , although loosely, British Press. Although impressive on a huge, football stadium sized screen, this shot is a poor reflection of the speed, detail and colour of the Falcon's graphics...

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Our monthly round-up of all that's new in the world of Atari.

UK FALCON TO FLY AT ECTS

At the time of writing, the UK launch of the new Atari Falcon 030 is expected at the European Computer Trade Show at the Business Design Centre in London. The show takes place in early September. We will have a full report next month.

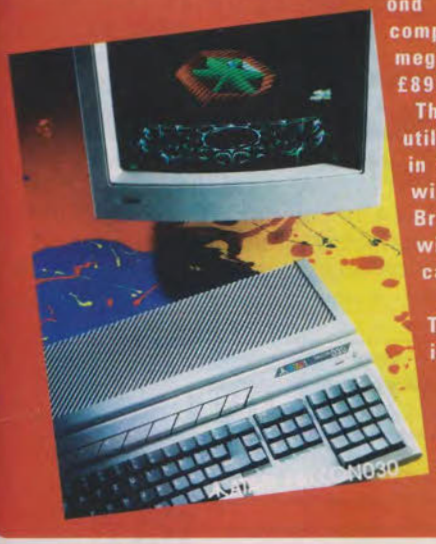
There will be two versions of the Falcon on sale from the end of the month. One will be a one megabyte machine, RRP £499, and the second will be a four meg computer with a built-in 64 megabyte hard disk drive, RRP £899.

The Falcon will have several utilities and two games built in to the system. The games will be Landmines and Breakout and the utilities will include a clock and a calendar.

Atari President, Sam Tramiel said: "The Falcon is not 'Son of ST'. Rather than being evolution, the Falcon is revolution. We believe that the home consumer is far more discerning than the business user.".

There is a major commitment to the new market. Atari claim that 70 software development companies are already working on the machine and there should be a minimum of fifteen Falcon specific games by the end of the year.

Atari bosses claim that fifteen thousand machines will be shipped before Christmas with major quantities following in the New Year. Bob Gleadow, head of Atari UK said: "The Atari Falcon will be the brand leader next year".



The new £499 Falcon 030: in the shops soon.

ECTS, UK launchpad of the Falcon.

ST MARKET BOOMING IN BLACK AND WHITE

The rights to distribute the Moriarty Monulator was sold to Goodman Enterprises recently and the company immediately announced a price reduction from £19.95 to £14.95.

Programmer Peter Allen has sold the product due to other commitments. He has been commissioned by the BBC to write a new situation comedy based on the growing interest in Virtual Reality.

Mike Goodman of Goodman Enterprises is delighted to distribute the Monulator and has cheery words to say about the ST market: "Business in June and July is up on last year. June takings were 15 per cent up on the same period twelve months ago".

FUTURE SHOCK FOR CHEAPER STE

The future of the ST has been assured. It will not be dropped in favour of the Falcon, a spokesman for Atari has confirmed.

The STE has a valid place as the entry level for home computing in the future. Following the drop in price of the Amiga A600, the STE will drop too. Expect the RRP to fall from its current £299 to about £225. This move could see the 520 STE appearing in some shops discounted to under £200.

With the wide range of software available for the machine, its future should be assured for some time.

The Mega STE, however, has now been discontinued and there are no plans to replace it at this time.

The STart pack from Silica Shop. Expect the pack price to be around £225.

TITAN TAKES BIG FALL

The Reflex graphics card, which allows the use of high definition graphics on large screen monitors, has been reduced in price from £249 to £199.

The price of the Qume 15" A4 monitor sold with the card falls £100 from £748 to £648, and with the Hitachi 21" A3, a saving of over £150 from £1144 to £995.

Titan can be reached on 021 415 4155.

LEGEND GETS ALL CLUED UP

Mindscape has released a hint book for its ***Legend*** RPG game. This highly rated game should now be a little easier with the help of this "weighty tome" and should bring encouragement to all ***Legend*** adventurers.

Priced at £6.99, the book is in the shops now.

HCS MEMORY UPGRADE SPECIALISTS

MEMORY UPGRADES

HCS STE and MEGA STE UPGRADES

HCS STE memory upgrade kits come complete with full instructions designed for the amateur. The complete job should take no longer than 15 minutes. 2 and 4 megabyte kits come with free utilities disk and multitasking software.

Upgrade from 520 to 1040 ..... £13.99
To 2 Megabytes £49.99
To 4 Megabytes £94.99

STF(M) and Mega ST upgrade kits

Xtraroom Deluxe plug to upgrading system fits inside the computer. It can upgrade your computer in stages to 1Mb, 2.5Mb and 4Mb. The kit comes with comprehensive instructions designed for novices. The kit uses SIMMS, so is easily upgradeable.

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To 4 Megabytes £119.99

Solder In Kit

The solder in kit will upgrade the 520ST to 1Mb. Electronics experience is required as much soldering is needed. Check your RAM chip configuration before ordering: 4 or 16 chips, SMD or DIL.

Solder in kit (all versions) £25.00

REPLACEMENTS

The HCS power supply and disk drive upgrades come complete with fitting instructions and plug straight into the ST without soldering. The Power supply produces less heat than the original so is more reliable.

Replacement power supply £39.95
Double sided disk drive kit £47.00

ACCELERATORS

The AD Speed made by ICD fits in place of your microprocessor. It uses a 68000 chip running at a switchable 16MHz with cache or standard 8MHz to give virtually 100% compatibility. The 68030 SST for the Mega ST gives phenomenal speed with a 68030 running at 50MHz!! The SST has space for 8Mb on board RAM, TOS 2 included.

AD Speed ST £145.00
AD Speed STE £165.00
68030 SST-50 ..... £550.00
Fitting for above £35.00

INTERFACES

The "AdSCSI ST" ICD host adapter gives SCSI output from the STs DMA port, complete with software and full documentation, DMA cable and hard drive formatting software. Keyboard interface allows the use of PC compatible keyboards on the ST. Multirez allows the ST to display all 3 ST resolutions on the multisync monitor. The forget me clock sets your STs time and date with cartridge-through port.

AD SCSI £69.99
AD SCSI with clock £79.99
Keyboard Interface £55.00
Multirez £44.99
Forget Me Clock £16.99

MODEMS

HCS Smart Modem 9600 has full Fax capability for send and receive, Auto-answer, pulse or tone dial, Automatically determines incoming calls as Fax or modem, Industry standard command set with support for V22bis, V22, V21. Fully Hayes compatible. All types c/w PC software. ST Fax software option supports most ST graphics formats including Pagestream and Calamus for immediate composition and send. Modem 2400 has all above features but without Fax. All types come Complete with cables.

Smart One™ Fax with FAX Software £139.99
Smart One™ Fax with only PC software £119.99
Straight Fax software £45.00
Smart One™ 2400 ..... £59.99
Smart One™ 14,400 Fax,V32, V32bis,V42, V42bis, etc £259.99

MONITORS

14" Super high resolution 0.28 Dot pitch multisync monitor is compatible with the TT, PC VGA/SVGA, Multirez and proposed Falcon output. SM144 is compatible with all monochrome ST software, all normal controls at the front. Both have picture size and position adjustment.

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CHRISTMAS SALE ON AT SHOPPER SHOW '92

Once again, the Computer Shopper Show will take place at Olympia's Grand Hall from 19 - 22 November.

The show, organised by Blenheim PEL, has over 100 companies already booked and is said to offer the complete buying solution for home and business, encompassing all platforms.

Organisers are planning sessions on buying advice and a Software Presentation Forum, where leading companies will put their products through their paces.

There will be printer testing stations to enable an unbiased comparison before buying.

The show is ideal for bargain hunters with many suppliers of peripherals attending. Substantial savings can be made on hard disk drives, printers, software, disks and other extras by shopping around. Here, all the comparisons are under one roof.

Further information is available from Blenheim PEL on 081 742 2828.

GASTEINER ICD LINK

Gasteiner Technologies have been appointed distributors for the ICD range of products. They will have new hard disk drives, controllers, AdSpeed boards and many other products to offer.

A spokesman said: "We're delighted to be able to offer the ICD range of hardware, strengthening what is available for the home computer user.".

CAR BOOT PIRATES AHOY!

Mindscape has announced concern after pirated copies of several of their products have turned up at car boot sales.

Discussions with F.A.S.T. (Federation Against Software Theft) and other software companies are taking place in order to find an industry wide solution.

A spokesman said: "Software piracy will ultimately kill the industry. If money is not circulated through the trade, then new software will not be developed."

TANDY HANDY FOR ST?

Negotiations are under way to improve the distribution of the ST through the Tandy chain. Some of the stores already stock the machine, and it is hoped that the whole chain will stock the computer before long. The move follows the success of the Lynx promotion with Tandy deciding to put the new Batman Returns pack into all of its 355 stores throughout the UK.

SUPER STORAGE

The floptical drive and disk. Will also read and write D/S and HD disks.

A new SCSI device is due to make an appearance here in the very near future.

The floptical drive is a combination of conventional magnetic disk technology and optical drive techniques to provide a comparatively cheap alternative method of large volume storage.

The disks are 3.5" specially treated floppies and can hold about 21 Mb of data. This is about half of the capacity of the average hard drive. Two companies are making the disks, 3M and Maxell, and they sell for an incredible £12 each. That translates to around 50p per megabyte!

No prices have been set for the unit as yet, but it is expected to sell for around £200, making it a viable alternative to a hard drive and ideal as a backup for one. It also has the ability to read and write standard and high density floppy disks, which could aid file transfers to other systems.

The system has an embedded SCSI mechanism, so connecting it to a host adaptor or on a SCSI chain is simple.

The floptical drive is manufactured in the States by Insite. It is sure to catch on here as a cost effective way of backing up and transferring large amounts of data.

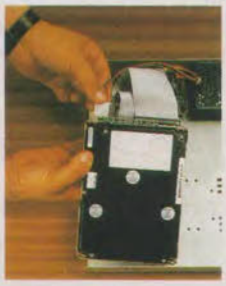
A CAUTIONARY TALE

Last month, we showed you how to build your own hard disk drive. The drive we featured was a CDC 90 megabyte, 5.25" half height drive that had been scrapped by its original owners and sold at a computer auction for £30.

It was thoroughly tested before being used and passed with flying colours. The unfortunate thing is this. It was used in the office and objected to being on all day. When it died, it also killed another 105 megabyte, commercially available hard drive that was its backup.

As you can imagine, that caused us no end of problems, not to mention embarrassment. The problem was eventually isolated to a faulty host adaptor writing to track zero on the drive. Track zero holds all the information about the drive size, format and other details, so if this gets corrupted, the whole drive is useless.

To avoid problems like this, we recommend that you buy a spare drive where possible and always back up your data to floppy disk regularly.



The CDC hard drive mechanism.

STREET FIGHTER 2 FOR THE ST

US Gold has announced that its mega arcade smash, ***Street Fighter II*** from Capcom is to come to the ST.

Spectacular graphics and complex fighting techniques caused this game to become the most successful coin-op of all time. The game was available on the Super Nintendo games console as a grey import and was selling for £100 a copy!

Street Fighter II should be available by Christmas... and the price should be a little lower too!

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EMAP Images, the publishers who bring you ST Review, are the force behind Gamesmaster Live, the computer and console games show to be held at the NEC Birmingham on 4th, 5th, and 6th December.

The show will based around the hit TV series, *Gamesmaster*, and with ticket prices at £6 will be a good £1 to £2 cheaper than your average "bring 'n' buy"-style event.

And for £6 you'll be getting a full-colour brochure, a gift bag and entry to the following attractions:

- Events staged by the major hardware manufacturers
- Recreated *Gamesmaster* and *Crystal Maze* sets featuring plenty of challenges for all-comers
- All of the major software houses, including Virgin, Mindscape, Ocean, Anco, Domark and Gremlin
- A real-life Harrier jump jet
- A Quasar laser dome, in which the kids can run around zapping each other with light guns
- A sports arena
- Europe's biggest ever arcade, chock-a-block, for which you'll get free tokens
- And we'll keep you updated as we add more events and sign up the celebrities for this fabulous TV tie-in. . .

ST Review will be there and crowds of up to 120,000 are expected. The NEC in Birmingham has been chosen for its central location — so everyone from anywhere can find us.

Event organiser, Marc Swallow, commented: "This is definitely one of those fun-for-all of-the-family, Disney-style events that people often talk about but we will put into action".

Watch out, too, for details and competitions related to the show in News International newspapers, including the *Sun* and *The Times*.

"ST Review invites you to join its staff and readers at the 1992 Gamesmaster Live Show at the NEC at Birmingham on 4th, 5th and 6th December. For the small price of £6 we can offer you the most value-packed and entertainment-packed day out imaginable. Turn to page 109 NOW for details"

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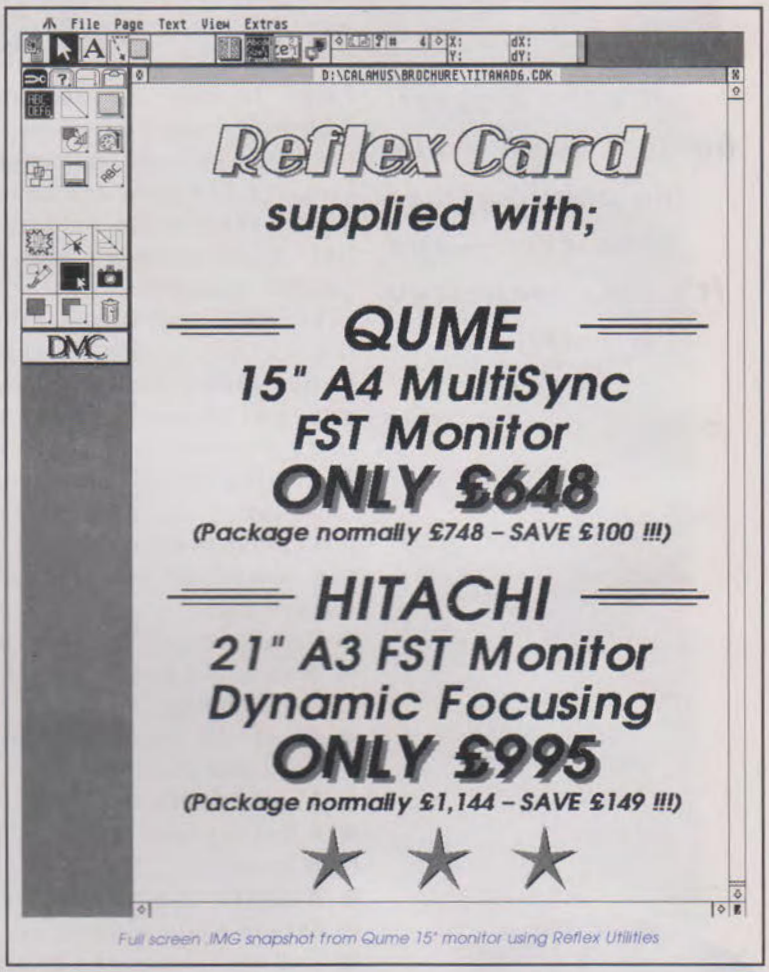

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FIRST IMPRESSIONS

Once again, ST Review looks into its crystal ball to see what ST games are set to reach our screens in the coming months...

BATTLETOADS

Mindscape

With those pesky Turtles now relegated to toydom obscurity, Mindscape has come up with the latest in amphibious anti-heroes – the Battletoads. Having made their debut on the Nintendo system, Mindscape is now set to bring the Toads over to the ST in all their glory, warts and all!

Set on a distant planet, where several of your race have been kidnapped, ***Battletoads*** casts the player as one of the reptilian gang out to overcome the many enemies currently patrolling the planet's catacombs and caves. Using the joystick, you can guide your toad across the eight-way-scrolling landscape as you search for a way into the complex base and fight the aforementioned guards. Using whatever weapon comes to hand, the Toads can punch, kick and swing their way past anything that tries to stop them, but should they concede too many hits during battle, they will be killed and will have to attempt it all over again from the last restart point.

Development of ***Battletoads*** is being led on the PC, with the ST version being ported over at Mindscape's Burgess Hill-based offices. So far, the game exists as a short playable demo which demonstrates the way the Toads move and the scrolling system, but the main bulk of source data has still to be added. Even so, the original Nintendo game proved extremely playable, and if the ST version contains just half of its playability, it should prove great fun.

CIVILIZATION

Microprose

Having announced, to all our dismay, its intentions to slow down the production of ST versions of its games, Microprose has now decided that the ST-owning public WILL get the opportunity to see a version of its acclaimed Sid Meier god sim, ***Civilization***, after all. Already a firm favourite with Amiga and PC owners, ***Civilization*** is basically an extension of the ideas created in Infogrames'/Simis' ***Sim City***.

With what limited resources they are given, the player must create and assist a small band of humans, and ensure that their development is smooth and quick. Starting in Caveman times, they must be helped to discover such fundamental necessities as the likes of fire, before they can go on to building houses and engines and, eventually of course, space travel.

However, with four computer-controlled opponents pursuing similar ideas, resources are a little tight and battles may ensue.

The main reason for ***Civilization***'s success on the other formats is that it is a game that quite simply grows and grows the more that you play it.

No two games are really the same, and developing your master race can take you into different avenues with every game – for instance, you may find that brutality and conquest work wonders in some games, whilst others require tact and charm. Additionally, there is a lot of humour present, and genuine historical figures – Hannibal and Marco Polo, for example – can be met as you go through the ages.

The conversion is being written in-house by Microprose themselves from Meier's original design, and you can expect a review very soon.

HERO QUEST II

Gremlin

This game is at a very early stage in development, but Gremlin's eagerly-awaited sequel to their ***HeroQuest*** boardgame conversion is looking very nice indeed.

Once again, the game opts for the isometric viewpoint that was favoured by the original, but this time the sprites are larger and there is more interaction with the many onscreen objects and features. Similarly, the spell interface has been tightened up in order to make the game faster and smoother to play, and this should help eradicate any niggles ST owners had with the first game. There's very little to go on at the moment, but you can expect more news as soon as we get it.

LOTUS III

Gremlin

The quest for the perfect race game goes on and on, with ***Lotus II*** still holding onto the title for the time being.

Quite how long it will continue to reign supreme will depend on the success of its long-awaited follow-up – the imaginatively-titled Lotus III. So what have developers Magnetic Fields managed to squeeze in that's new? The first, and most prominent, addition to the game is a level construction kit.

Obviously, these are by no means a new idea, but ***Lotus III***'s kit will allow the player to select objects from both the first and second game and place them on to the track of their choice, effectively doubling the number of roadside objects available to the player.

Virtually every aspect of the course can be altered, and the user can also edit the weather conditions and backdrops – so, theoretically, you could design a Hawaiian beach, complete with fog or snow if you wish!

As for the driving section itself, this will be pretty much identical to that of the second game, as the developers don't really think that they could take it much further. However, both one and two-player modes will be supported, which will again mean twice the fun.

Development of this game is being lead on the Amiga version, but as most of the code is being written using a SNASM-based PC, porting the code over to the ST will not pose any serious problems and very little is likely to change. Gremlin is extremely confident that the third game in the series will wipe the floor with the opposition, and with Core's ST incarnation of ***Jaguar*** now sadly scrapped, it seems that they have a fairly clear road ahead of them...

NIGEL MANSELL

Gremlin

What with our Nigel now reigning as World Champion, Gremlin must be absolutely cock-a-hoop about signing him up all those months ago! Still, the Mansell game is now well and truly under way, and is looking very nice indeed. Seated behind the wheel of a Formula One racer, the player must follow in Nige's footsteps and win every trophy available to them. To do this, they must race across the world over a succession of troublesome tracks, whilst trying to incur as little damage as possible to their car.

In terms of graphics, ***Nigel Mansell*** is fairly minimalistic, but the roads have been kept deliberately sparse to ensure that the game runs at a greater speed than its rivals. A full range of options are available to the player, including the customary automatic or manual gears, and there are a variety of pitstops to contend with, too. As with most Gremlin games, the Amiga version is leading the development chores, with an ST version to be ported over directly after. If Gremlin manage to keep the speed the game had when we saw it, they should be on to a real winner, but you can see for yourselves when it is released in November.

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SNAP COMPUTER SUPPLIES LTD Fax: 0703 457222
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COVER DISKS

WORKING WITH YOUR COVER DISKS

This month, there are no RAM disks to worry about. The only file that needs to be decompressed before running is TYPIST.TOS

To de-archive TYPIST.TOS, copy it onto a blank formatted disk by dragging it to disk B:. Click on OK in the Copy File box that appears and insert a blank formatted disk when instructed to do so. Run the program. It will automatically create a folder with the required files in it. The files created in the TYPIST folder should be TYPIST.TOS, TYPIST.DOC, TYPIST.C and nine files with a single letter and the extension .TYP. These nine files are the different lessons. Once the folder has been extracted, you can delete the original file TYPIST.TOS (the one outside the folder) and the program is ready to run.

WHAT TO DO IF YOU HAVE PROBLEMS WITH YOUR COVER DISKS

DON'T PANIC!

In the unlikely event that your cover disk won't load or gives any other problems at all, remove all cartridges and peripherals and try again. Please note that to restart the computer, you must SWITCH IT OFF for at least five to 10 seconds to clear all traces of resident programs before continuing.

If this doesn't solve your problem, return your disk, with a brief note of the problem and a stamped addressed envelope to P.C. Wise Ltd., Dowlais Top Business Park, Dowlais, Merthyr Tydfil, Mid Glamorgan, CF48 2YY. They will test the disk and send a replacement as soon as possible. You can contact the P.C. Wise Helpline with any urgent problems. Please note that they will deal with faulty disks only and not general enquiries. They can be contacted by telephone on 0685 350505 between 10.30 and 12.30 on weekdays.

STEP BY STEP

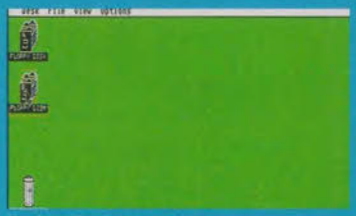
BACKING UP YOUR DISKS

This guide is based on a single disk system. If you have two floppy disks, place a blank formatted disk in floppy disk B and proceed as shown. For a single disk system, follow the instructions. You will be told when to swap the disks. In both cases, make sure you have a blank formatted disk ready before you begin

1 *Format a double sided disk by placing a new disk in the floppy disk drive. Click on floppy drive A and go to the File option at the top of the screen. Click on Format and then click on OK for both of the next two dialogue boxes. Write protect the cover disk (but not the blank disk) so that the disk cannot be written to by the ST, moving the small black notch on the back of the disk so that you can see through it. This will save mistakes later on. Place the cover disk in the drive.*

2 *Click on Floppy Disk A to highlight it and hold the left mouse button down.*

3 *Using the mouse to drag the floppy disk icon towards Floppy Disk B until that is also highlighted. The computer will treat the floppy disk drive symbol as being A for the source drive (the cover disk you are copying) and B for the destination floppy disk drive (the blank disk you are copying to). Don't worry, the ST's not going to expect you to have another disk drive connected.*



4 *Release the mouse button. You should then be presented with a dialogue box telling you that the computer is copying disk A to disk B. It will also tell you that all of the info on floppy disk B will be erased. As you have just formatted disk B there is nothing to erase.*

5 *Click on OK and another dialogue box will appear with the word Copy highlighted. Click on OK again. The computer will read as much as it can from disk A and hold it in memory before it asks you to insert disk B. Swap the cover disk for your blank formatted disk and then click on OK. You must remember that disk A is always the cover disk and disk B is your blank formatted disk.*

6 *Swap the disks as requested and you will end up with a copy of the disk on your blank formatted disk. Make sure that you put the original disk somewhere safe and work with the copy.*

In the unlikely event of anything subsequently going wrong, you'll have the original to refer to at all times.

THIS MONTH'S COVERDISKS!

Paintpot's a fully featured art program that's easy to use yet extremely powerful and it's on the ST Review Cover Disk. Add to that the fact that there are 21 other programs all packed onto the disk, assuring you of amazing value for money.

This month running programs from the cover disk couldn't be easier (especially in the case of Paintpot). All you have to do is to copy programs onto a separate disk and then just double click on the program file.

Here's a full list of all the games, utilities, desk accessories and programs that are included on this month's cover disks...

MITHRIL

MITHRIL ● LOW OR HIGH RES ONLY ● PROGRAM ● DISK 1

A compiled HiSoft Basic program with amazing 3D animation which shows you the power of the package that was given away free with the August issue of ST Review.

A good example of the power of ***HiSoft BASIC***, ***Mithril*** will take all available memory and create a series of frames. When complete, they will run in an animated sequence. The low resolution version changes colour as it goes and the more memory you have available, the smoother the result.

The program will tell you how many frames it can make - typically around 30 on a 1040 STE in low resolution. It then takes a minute or two to prepare the frames. Pressing the F keys will alter the speed of the waves and UNDO will reverse it. Space freezes the image and Return restores it. When you see what the potential of compiled ***HiSoft BASIC*** is with this simple demo, you'll want to create your own programs using the great package we gave away in issue four. Time to read that tutorial again and get programming!

READ ME FILES ALWAYS ACCESSIBLE

ASCII READER ● MED/HIGH RES ● DESK ACCESSORY * BY OFIR GAL ● DISK 2

Make life a bit easier with this simple read_me file reader accessible from within your programs.

This exclusive little gem allows you to read the .DOC files of any program after it is loaded, provided there is a menu bar at the top of the screen.

There are two versions of the program. One is for files of up to 12k and the second, 48k, the difference being the amount of memory they use. The first is recommended for 520 STs and the larger, obviously for one Megabyte or larger.

The main advantage of his reader is that you no longer need to exit a program to find out how to do something and have to wait while the program is reloaded. This usually means you've forgotten what it was you wanted to look up in the first place!

Another fine example of the uses of ***HiSoft BASIC***.

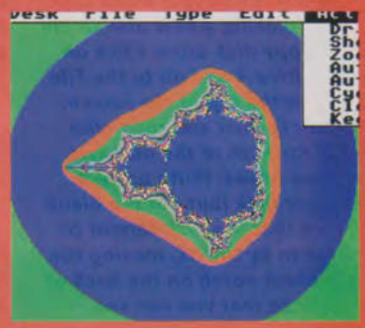
KRASKA

KRASKA ● ALL STS ● PROGRAM BY ROBERT SAMUEL ● DISK 1

Pleasant fractals, Julia sets and Mandelbrots plus lots more in this easy to use program.

Kraska is Russian for colour and the title for this came about because Robert Samuel happened to have a Russian dictionary next to him when he was writing the program. It uses a standard menu bar at the top of the screen. It will allow you to change the style and type of picture drawn. For those of you who have not yet come across fractals and mandelbrot sets, they are pictures drawn from complex mathematical formulae. They can be slow to draw but are invariably pretty.

There are 12 different formulae used to create the pictures, and they can all be found under the 'Type' heading. A nice feature, bearing in mind that fractals can be slow to draw, is the ability to set the program to autorun, allowing you to set the machine up to draw, save and move on to a new formula while you sleep. The ability to change the formula is there giving a lot of flexibility.



If maths is your thing, there's a full appendix in the accompanying documentation on the disk giving all the information you're ever likely to need with regards to the formulae and formats of fractals, Julia and mandelbrot sets.

ASCIIFY

ASCIIFY ● ALL STS● DESK ACCESSORY ● DISK 2

Convert your First Word Plus documents to pure ASCII for easy file transfers between machines and data transmission with this small accessory.

A nice little utility to add to last month's fabulous ***First Word Plus*** giveaway. This accessory will allow you to convert ***FW+*** files to true ASCII, the internationally recognised standard text format. The files can then be transferred to any desktop publishing or word processing package on virtually any other machine. So you can write at home and then print out on the office laser printer run by a PC.

The difference between using this program and the ASCII save within ***First Word*** itself is the ability to save without 'hard' carriage returns, which can give you more work to do with some other programs. It also means you can convert without having to run the whole ***First Word Plus*** program.

BASIC TUTOR

BASIC TUTOR ● PROGRAM ● DISK 2

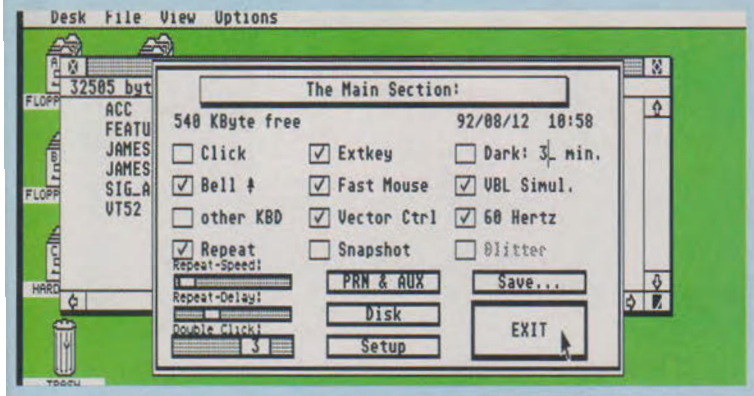
Here are a couple of small programs from the HiSoft Basic tutorial continuing on page 132.

Not much to tell you about these that's not included in the tutorial! Turn to page 132 for more details and to see where these programs fit in to the ***HiSoft BASIC*** tutorial this month..

JAMES THE BUTLER

JAMES12 ● DESK ACCESSORY ● DISK 2

A useful accessory replacing several other smaller accessories, saving those valuable slots plus more besides!



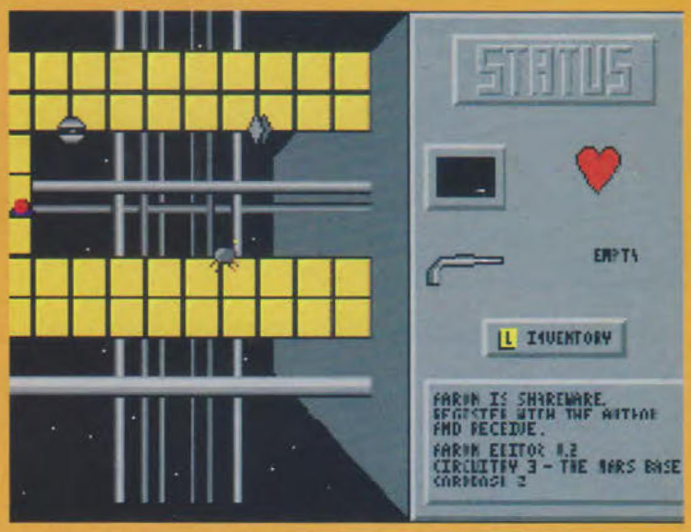
A selection of useful utilities in one here as James the Butler watches over your ST for you. He will tell you if a disk is likely to have a virus on it whenever you open it and will replace the standard control panel with a lot of extended functions.

Included within James is a screen blanker, which is adjustable, a mouse accelerator, blitter support, 50/60 Hz selector and many other functions. There are a couple of other modules included. One is a terminal emulator and the other allows the use of James from within the Signum package. Copy JAMES.ACC and VT52.ACC to the root directory of your boot disk and reboot to run James. If you are using Signum, then you'll need SIG_ACC.ACC as well. Full documentation is included on the disk.

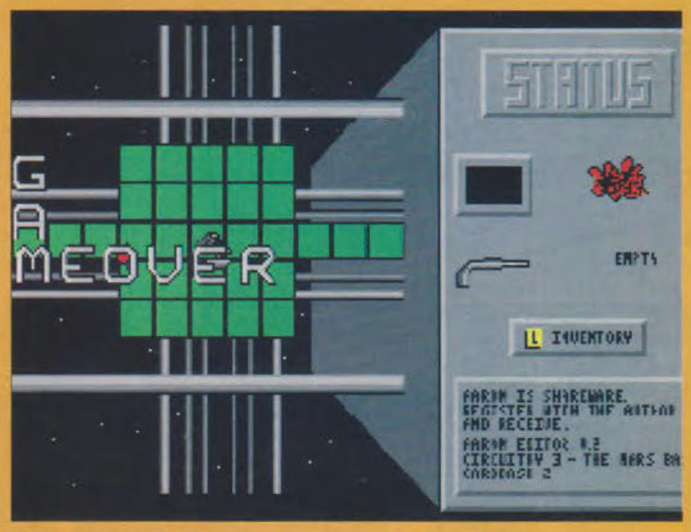
AARON

AARON ● EXCLUSIVE GAME BY ANDY MORGAN ● LOW RES ONLY ● DISK 2

Here's another great Atari ST Review exclusive game for your entertainment. This one is a fabulous arcade adventure set in space



Aaron, a ship within a ship for you to explore.



An exploding heart indicates the end for you if you're not extremely careful.

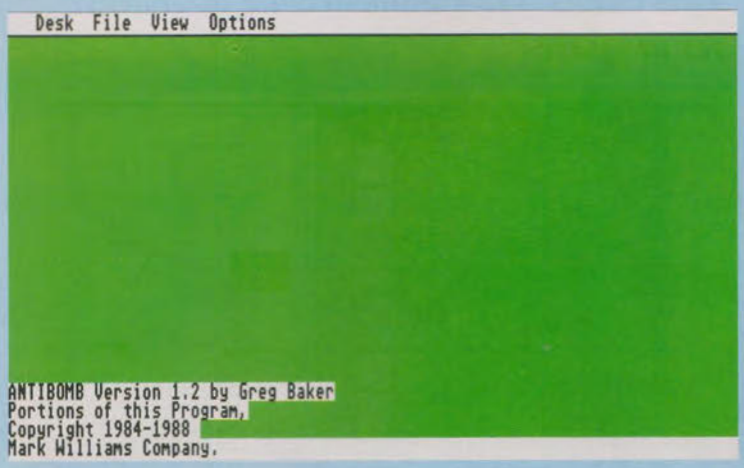
It is the year 4018 and there is an unofficial war taking place between the Aaronians and the Humans. Several humans have been captured and are being held on the prison ship Aaron. The ship is manned only by Aaronian droids and you have been selected to rescue your comrades. Your mission is to rescue the prisoners from the ship before they are executed. You have an uloaded blaster, but there is ammo abourd the Aaron which you'll need to find before searching for the prisoners and releasing them. Every time you come into contact with the droids they explode and the strain on your heart shows. Too many contacts and you die.

The author has released the game exclusively through ST Review and is offering an editor for Aaron plus two other games to all who register with him for the not unreasonable sum of five pounds stirling. Details of where to send the money can be found in the accompanying .DOC file.

ANTIBOMB

ANTIBOMB ● AUTO PROGRAM ● DISK 2

Again, a small but valuable aid to the day-to-day running of the ST. A program designed to tell you what Atari forgot!

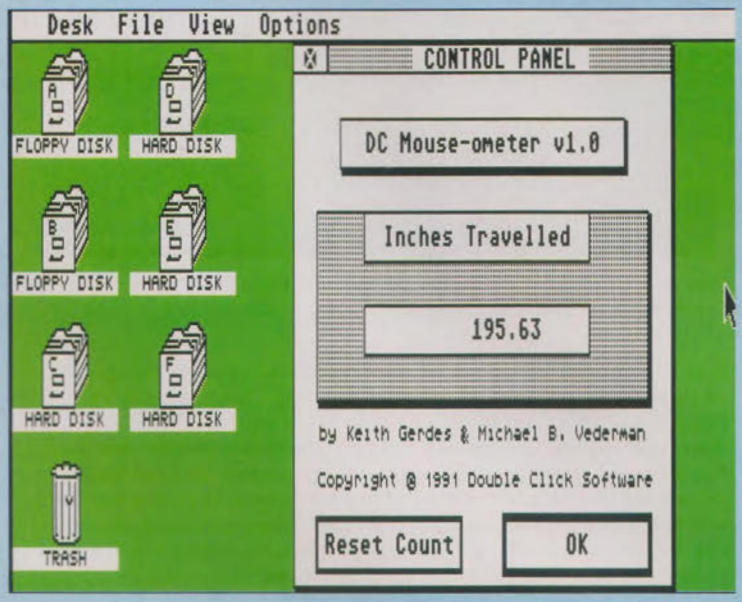


Are you confused about why your ST has crashed and what all the little bombs means? Place ANTIBOMB.PRG in the auto folder of your boot disk and instead of the bombs, you'll get a dialogue box telling you exactly what's gone wrong. The program called EXCEPTION.PRG is included for you to test ANTIBOMB.

DC MOUSE'O'METER

DCMOMETR.CPX ● AUTO PROGRAM AND CPX ● DISK 2

How far do you and your mouse travel during a session? Find out with the ingenious Mouse'O'Meter. And a .CPX to boot!



Double Click has released this little fun program. This one will tell you how far your mouse has travelled since you started or zeroed the counter. Install the DCMOMETR.PRG in your AUTO folder and place the CPX file in your CPX folder (assuming you got the last issue!). Reboot the computer and look in the Xcontrol panel for the DC Mouse-ometer CPX. This will tell you how far the mouse has travelled in inches and give you the opportunity to reset the count.]

DC LIGHT OFF

DCLIGHT OFF ● AUTO PROGRAM ● DISK 2

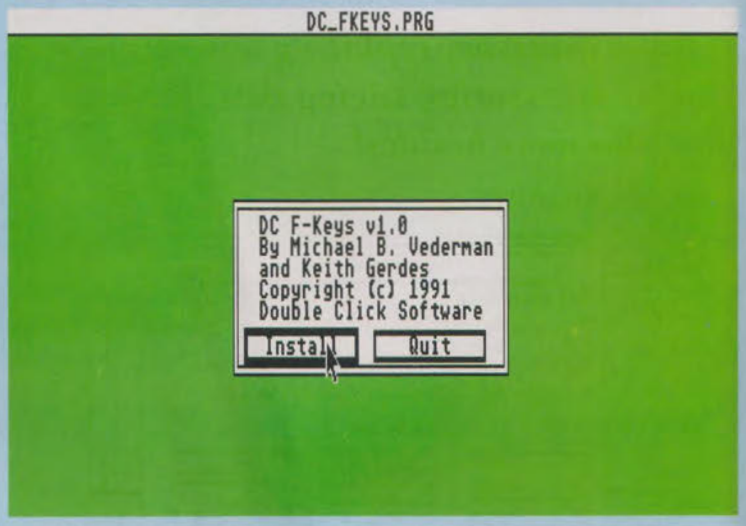
Turn that light off! This one will do just that, turn the drive light off for you and stop the drive just spinning.

Another useful little gem from those nice Double Click people. This one will turn off the drive light and stop the drive if you boot up a hard disk without a disk in drive A. You can run this from the auto folder if you regularly boot the hard drive, or from the desktop for the occasional stop.

DCFKEYS

DCFKEYS ● AUTO PROGRAM ● DISK 2

Don't type the same thing repeatedly, let DC_FKEYS do it for you.



DC_FKEYS, set up text strings and recall them at a single keystroke.

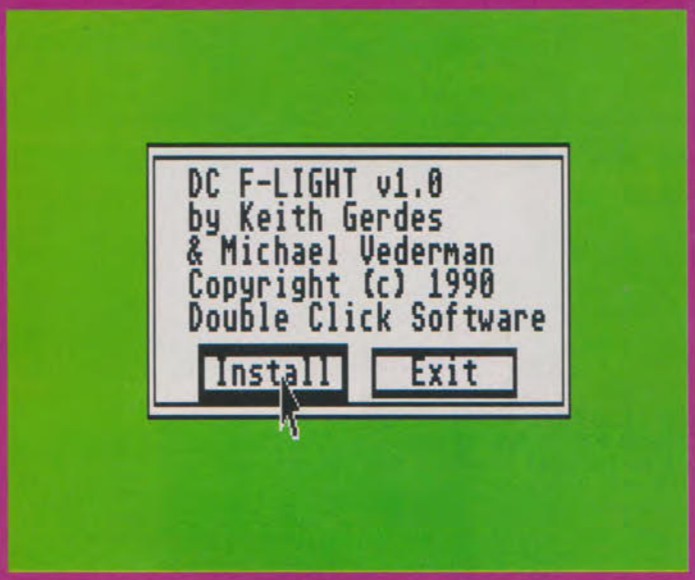
DC_FKEYS allows you to assign text strings to single key strokes. This is useful for anything you type repeatedly. For example, Yours sincerely at the end of a letter can be assigned to a single key like F1, so instead of typing it every time, you just hit the key and it's inserted for you.

To install ***DCFKEYS***, just place it in the AUTO folder of your boot disk or run it from the desktop. Take a look at the sample data file provided to give you an idea of what the program will do. To edit this, you'll need to load your word processor and save the finished file as ***DC_FKEYS.DAT*** in ASCII form. This will then be read every time you load the program and the same macros will be assigned each time. There is also a toggle provided if you want to switch this facility off.

DCFLIGHT

DCFLIGHT ● AUTO PROGRAM ● DISK 2

This auto program is one for hard disk owners. Use the disk access light on your ST to show when the Hard Drive is accessed.



Use the DCFlight program to show all disk access including RAMdisks and hard drives.

DCFLIGHT can be run from an AUTO folder or straight from the desktop.

DCFlight is a small auto booting program that is ideal for hard disk owners. If you have the drive positioned where you can't see the drive access light (or you have a drive that doesn't have an access light!), place this little program (only 752 bytes) in your auto folder and the disk access light on the ST will double as a hard drive access light. Good isn't it? It will also work for caching and RAMdisks, although they are generally so fast it would be difficult to spot.

You can also run ***DCFlight*** from the desktop if required. It actually takes up less than 400 bytes when resident.

POOLIX92

POOLFIX92 ● ANY ST ● PATCH PROGRAM ● DISK 2

A patch program to cure bugs in TOS 1.4 and 1.6

This is an updated patch program for the GEMDOS bugs in TOS 1.4 and 1.6. The program needs to be first in your AUTO folder and that should be the last you see of it. It fixes a couple of bugs that would normally cause these versions of TOS to crash under certain circumstances. This small, invisible program should mean you have less chance of the machine crashing for no apparent reason. It will tell you if it is not needed on your particular version of TOS when it loads.

RESOUNDING SUCCESS!

RESOUND ● ANY ST ● PROGRAM ● DISK 2

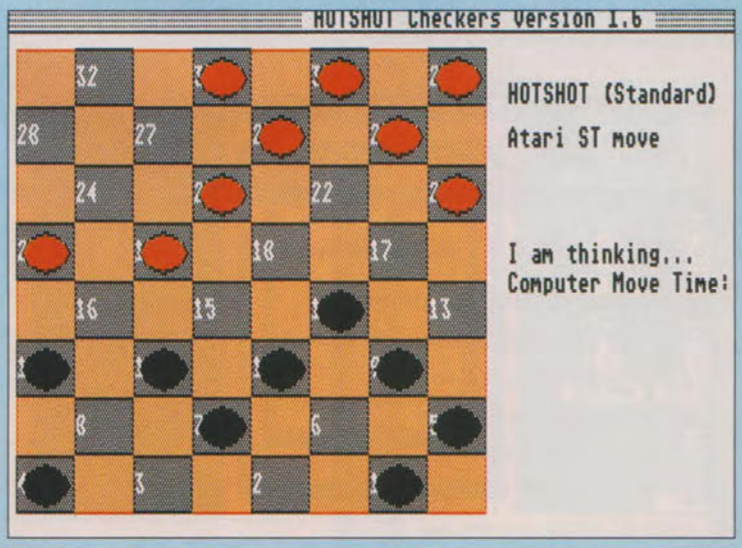
A bit of fun for you. Try it and see.

I'm not going to tell you much about this one. Run it and see. If you like it, you can install it into your AUTO folder and place the .INF and .SND files in the root directory of your boot disk and have it running every time you load a program.

BE A DRAUGHT'S HOTSHOT

HOTSHOT ● ALL STS ● GAME ● DISK 2

A GEM draughts game for all resolutions to help improve your game.



A good quality checkers game to challenge you at any level.

Here we have a very good draughts game to keep you amused. It will play at all levels from novice to hotshot so it's got enough to keep even the most ardent checkers fan going!

The game is mouse controlled and will run directly from the disk. It will play an amusing game and will even resign if it is in a hopeless position. The squares are all numbered and the game features the ability to save to disk so that you can gloat over past glories.

TIME-DRIVE

TIMEDRIVE ● ANY ST ● AUTO PROGRAM ● DISK 2

Display the drive you're accessing and the current time too.

```
High & Medium Time & Drive Display
© by Lars-Erik Østerud - July 1989
```

This AUTO loading program will display the time in the top right corner of the desktop and tell you which drive is being accessed too.

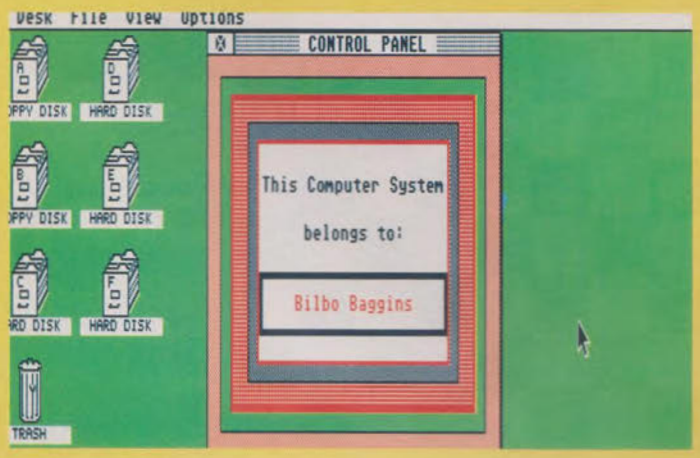
A small area of the GEM desktop screen is rarely used by programs, so here's a small program to make it more interesting. A mere 886 bytes long, TIMEDRIVE will display the current time for you and also tell you which drive is being accessed when you open it or run a program from it. Simply add it to your AUTO folder and reboot the computer. The clock will need to be set if you don't have a clock card installed. If you do, then run TIMEDRV3 after the clock driver program.

VANITY

VANITY ● .ANY ST ● CPX MODULE ● DISK 2

Just to remind you who your ST belong to...

If you're the type of person that writes "this book belongs to..." in all of your exercise books then this CPX is for you. Place it in the CPX folder with the others and reboot your computer. Click on the IDENTIFICATION module and a screen will ask you to enter your name. Save that, and every time you use the CPX, it will tell you that "This Computer System belongs to...." and your name will be shown. A personal personal computer!



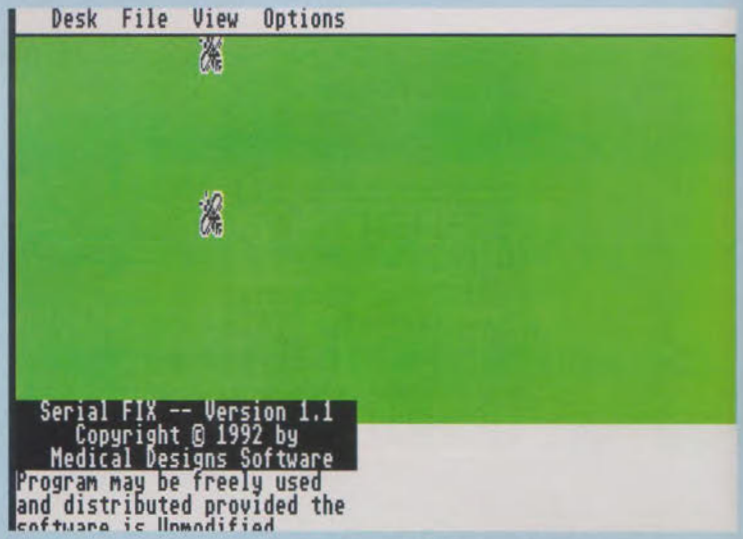
SERIALFIX

SERIAL FIX ● ANY ST ● AUTO PROGRAM ● DISK 2

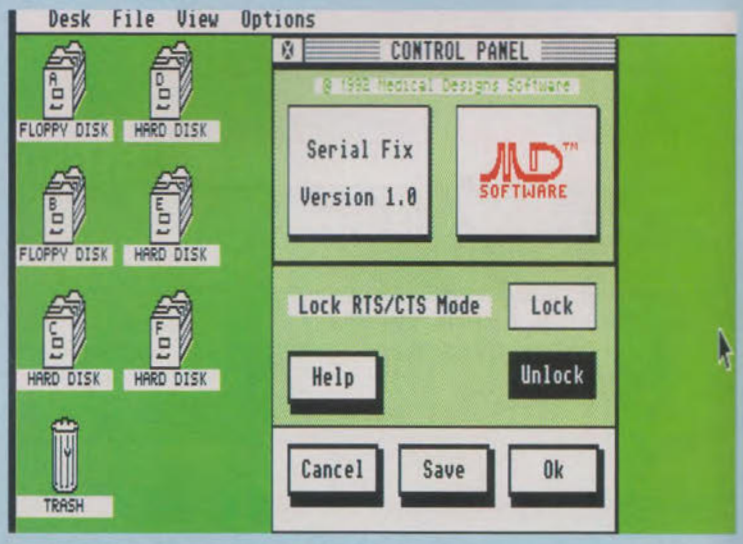
If you use a modem, then you really need this.

This is a patch program to cure the old RTS/CTS bug with some versions of TOS. The problem is that some of the early and later versions of TOS will not handle hardware flow control properly when using a modem.

This program by Bill Penner replaces the older TURBOCTS patch program and includes a .CPX file for XControl too. SERIALFIX.PRG needs to be in the AUTO folder of your boot disk (or run from the desktop). The .CPX will allow you to lock the fix in place so that any terminal program (like FLASH) will not be able to change it.



Autoload this serial port patch to solve the RTS/CTS blues.



The .CPX to control the SERIAL FIX program.

LEARN TO TOUCH TYPE

TYPIST ● MED/HIGH RES ● PROGRAM ● DISK 2

An excellent touch typing tutor to give your fingers the exercise they need.

This touch typing lesson will take you in stages through the keyboard in easy to follow exercises. Start at the beginning and work your way through.

You will need to copy the file on the coverdisk to a blank formatted disk and then run it to de-archive the files. You can then run the TYPIST.TOS program from within the folder to begin. Choose your lesson and then you can start tapping away on those keys to your heart's content.

Boot disk: This is the disk that is in your disk drive at the time you switch your computer on. It will load up accessories and auto programs for you. On a standard ST it is drive A (the internal drive). If, however, you have an autobooting hard disk drive, the boot drive is usually drive C.

Bootup: This describes the procedure of actually switching on the computer at the start of a work session or a restart. There are two types of boot, warm and cold. A cold boot is when the computer is switched off and then back on again, and a warm boot is when the reset button on the back of the computer is pressed

Root directory: An often used phrase that we all take for granted. The root directory is the very first screen of info when you open a disk. That is, not held within any folders.

DON'T OVERFILL THAT AUTO FOLDER!

On this months cover disks, there is a full selection of accessories and programs that go in an auto folder. It is not wise to try and use them all at the same time as some may clash and you will run out of memory very quickly..
The best way to use them is to select which ones would be handy at which time and prepare a set of "bootup" disks and label them for each purpose.
Accessories make it very easy to use up memory with too many programs loaded before you even begin to work, especially when people are using a half meg machine. Also, the ST is limited to six accessory slots. Any more than this will not be loaded unless you have an accessory loaded like Multidesk. Bear in mind, too, that these also can take up large areas of the STs memory.

IF YOUR DISK DOESN'T WORK

Whist the greatest care is taken for you to get the most out of your cover disks, there can still be problems. Here's a quick checklist to try before you finally return your disks - remember that if any any point you cannot tick a box, you must rectify the situation.

IF YOU CAN'T ACCESS THE DISK CHECK:

1 *Is your computer working correctly?*
❑ *Go to 2*

2 *Is the ST actually accessing the disk? Have you checked the drive light ?*
❑ *Go to 3*

3 *Can you hear the drive moving?* ❑ *Go to 4*

4 *Have you got a double-sided disk drive?*
❑ *Go to 5*

5 *Have you made a backup of the cover disks?*
❑ *Go to 6*

6 *Are the files you're trying to run on the disk?*
❑ *Go to 7*

7 *Have you doubled clicked with your mouse?*
❑ *Go to 8*

8 *Have you highlighted the program and tried opening it from the FILE menu?*
❑ *Go to 9*

9 *Does the program have any of the following the three letter extensions: IMF, DOC, TXT, CFG, RSC, LET, DAT, HEX?*
❑ *Go to A*

10 *Does the program have the extention .ACC*
❑ *Go to B*

11 *Does the program have any of the following extensions: PRG, TTP, TOS?*
❑ *Go to C*

A *None of these are runnable programs. Please try again.*

B *This is an accessory and will not run. You must copy it onto a disk and boot up with it either installed in the AUTO folder on a hard disk or just copied onto a disk and inserted into the floopy drive when you first switch the computer on.*

C *It's pretty likely that there is something wrong with either your disk, the program itself, or if used, one or more resourse files (.RSC) or data file (.DAT) may be missing and you can't run the program ever. Are you now fed up?*
❑ *Go to D*

D *Try re-copying the program that you're trying to load from the cover disk and go through the above stages again. If you're still without luck then I guess it's time to return the disk using the coupon below. Remember to enclose an sae with all of your returns to ensure speedy return of your replacement disk.*

ST REVIEW COVER DISK RETURNS

NAME.....

ADDRESS.....

.....

.....

.....

TELEPHONE NUMBER.....

DISK PROBLEM:.....

.....

.....

Enclosed: ❑ **Disk One** ❑ **Disk Two**

Pleaze Enclose sStamped Addressed Envelope

Send all DISK RETURNS to ST REVIEW DISK RETURNS, PC Wyse, Dowlais, Merthyr Tydfil, Mid Glamorgan CF48 2YY.

PAINTPOT

If you're wondering where Paintpot is, don't worry. We haven't forgotten it, a more than full run down of Paintpot begins on page 28 and has a whole six pages dedicated to showing you clearly and easily just how to get the very best from what we believe is one of the best art packages available on the ST.

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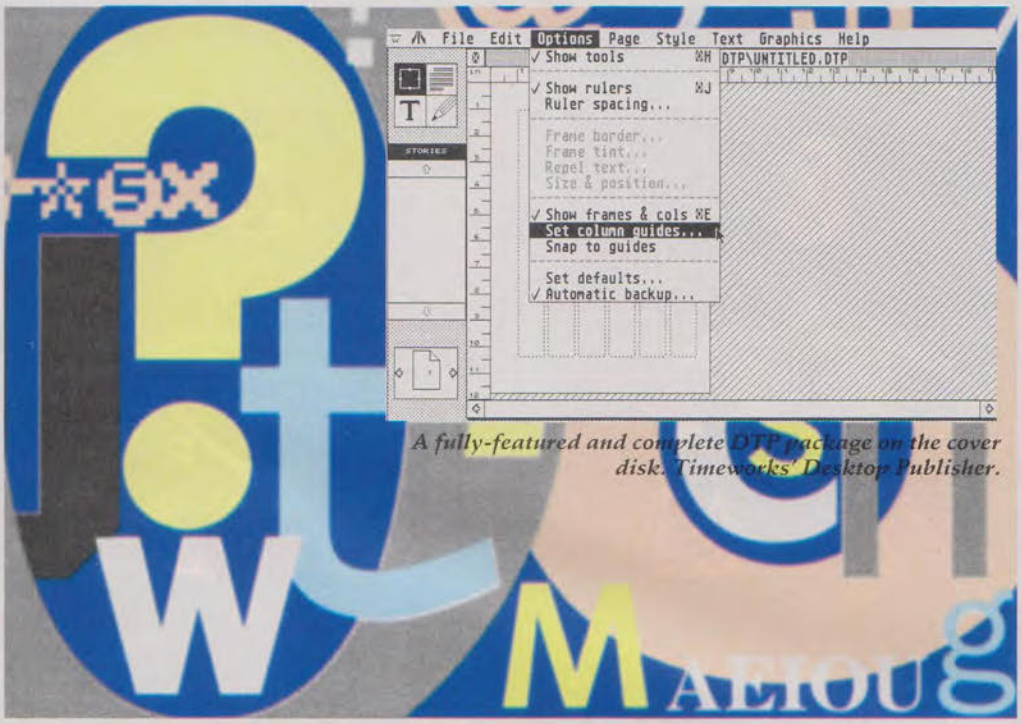

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ST REVIEW IS JUST SIMPLY THE BEST!

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PICTURE

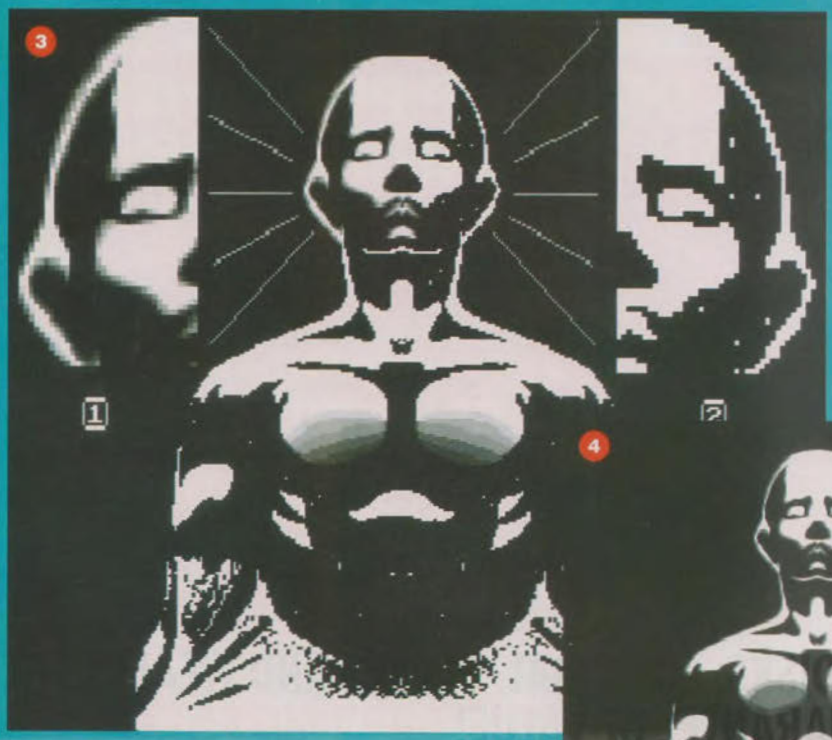
The ST is a versatile tool and offers some superb opportunities for graphics work. This month, we take you through the basics of computer graphic art, starting with a guide to perfecting your technique, supplied by Jools Watsham, a graphic artist at games producer Storm

STEP BY STEP

A little help can go a long way with any art program. Just try this walk-through with the Paintpot Art program given away on this month's cover disk and find out just what you can do

1 *To start off with, you need to get a rough outline to work with – simply draw the outline of the body to get the proportions right.*

2 *Tidy up the outline. The best way is to work on one side of the body and flip it horizontally to save extra work and to make it symmetrical.*



3 *Start anti-aliasing the outline to give the rough lines a smoother look. Use the darker greys to blend the white outline into the black background. As you can see, the left side of the face is smoother than the rough side on the right.*

4 *Finish anti-aliasing the whole image. Again, it's easier to do one side then flip it.*

Anyone can create professional looking computer art. It really doesn't matter whether you can draw or not as many of today's programs are simple to use and have facilities which will enhance the skills that you do have – by smoothing curves, or stretching, rotating, mirroring and generally manipulating the elements of a picture.

However, a little skill will always help so here's a Step-by-Step that should help you to produce that masterpiece you always thought you were capable of. . .

THIS

ANTI-ALIASING

Anti-aliasing is used to blend anything you draw. For example, if you had something yellow on a green background you'd use various shades of yellow and green to smooth the edges of the object into the background, thus de-emphasising the jagged lines between the two boundaries.

5 *When you're satisfied with the main body shape, start on the flesh at the bottom by filling it with a base colour.*

6 *Fill all of the gaps between the arms. Add a few highlights.*

7 *Just like the anti-aliasing on the body, do the same to the flesh, obviously using the darker browns.*

8 *Finish off the anti-aliasing and rearrange the colours to your liking. As you can see, it has a tint of red in the flesh now.*

9 *Put a blue outline around the whole shape to give it a luminous look!*

10 *Time to start on the background. I've used the darkest flesh colour for the space object, with a blue outline.*

11 *Place the main image on top of the background by picking up the body as a brush.*

12 *Finally, touch up the picture to give it a polished look, by adding stars and making sure everything is antialiased.*

PICTURE THIS

You've seen how the experts do it, now you can have a go yourself with our guide to using the Paintpot program included on this month's coverdisk

YOUR GUIDE TO THE PAINTPOT COVERDISK PROGRAM

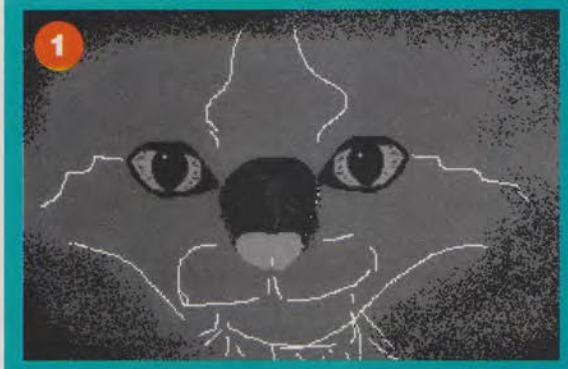
Paintpot is a highly versatile graphics tool. The name might not have the same pedigree as ***Deluxe Paint*** or ***Degas***, but what you hold in your hands is actually an extremely powerful piece of visual software. You've probably ripped it off the cover of the magazine already and booted it up in wild anticipation, only to be confronted by a bank of icons. Don't panic yet – most of them are self-explanatory, so why not have a play around with it now? It certainly looks interesting doesn't it?

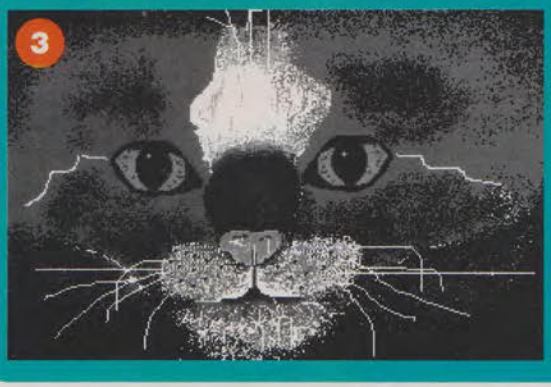
A quick word of warning. Although all the standard options are here, line drawing, coloured fills and the like, ***Paintpot*** has quite a few that, while useful, are undoubtably new to most people.

These pages should help you get to grips with your new toy, while giving you a few pointers on how to use it to its full potential.

STEP BY STEP

For all you animal lovers, here's how to create a picture of your favourite feline





1 *First draw a simple outline of the facial features, making sure that their positioning and size is correct (use a photograph if you can.) Then wash the backdrop in a light grey before using the airbrush to spray the corners of the screen a darker shade.*

2 *Next fill in the facial details. The eyes are simply black circles with a small white dot placed in the centre of a eye shape. Once you have drawn one, it's easy to mirror it to the other side of the nose.*

3 *Now all you have to do is play a little more with the airbrush. Try and mark the highlights and lowlights, but don't worry too much about the shades, as no two cats have the same facial patterns.*

GETTING STARTED

Switch off your machine, place the disk in the drive and switch on. Wait a few seconds and the ever-present desktop will appear. If you want to use ***Paintpot*** in medium or high resolution, change it now with "Set Preferences". To get going, double click on the "PAINTPOT.PRG" icon.

CONTROLS

For the most part, the software is mouse-controlled, with the keyboard only used for text entry. The right button is used to return to the control panel unless otherwise stated, and the left button is used to select and utilise all options. Menus drop down automatically once the mouse pointer passes over the heading in the menu bar.

Once the program has loaded, you are presented with the control panel and the menu bar. At the bottom of the screen are the words "Screen 1", telling you that you are currently working on the first of the two work screens. Before we go any further, go to the "Extras" menu (top right corner of the screen) and select "Extra help" with the left button.

This will give you on-screen prompts as to how to use the tools you select. You are now ready to begin.

CONTROL PANEL

The control panel contains all the drawing tools you could possibly need. At the top of the panel are the three rows of icons that are used for selecting the various tools, and below them is the palette, with the long horizontal bar indicating the currently selected colour. The small text window in the bottom left corner names the icon that the mouse pointer is currently over. Selecting a tool causes the control panel to disappear and to be replaced by your work screen, where you can draw to your heart's content. Clicking on the right button returns to the panel.

ICONS

There is a bewildering array of icons for you to get to know if you want to get the most out of ***Paintpot***. They're all explained for you here.

(STARTING TOP LEFT): LINES

This tool simply lets you draw a straight line from A to B in the currently selected colour and style. To use it all you

need to do is to click and hold the left mouse button at the point where you want the line to start and drag the mouse pointer to the point where you want the line to end. Release the button to place the line. The style of line can be set under "Make Line" in the "Settings" menu.

FREEHAND
This allows you to doodle directly with the mouse. Click with the left button to draw and release to move the mouse without drawing.

FILL
This enables you to fill an enclosed area with a required colour and pattern. Click with the left button over the area you want to fill and the program does the rest. Make sure that the area is closed before you start.

CHOOSE FILL
This gives you the 36 fill patterns available, as well as the 12 different styles of line. The currently selected fill is the one blinking, and the line is marked with a tick. Click with the left button to select a new pattern or line, and then click on the "OK" box.

CUT/COPY AND PASTE
This icon has two different functions, depending on which side of the icon you click on.

If you click on the left, you can "lift" a rectangular area of the screen and then stamp it down somewhere else, leaving only a blank space where it was. Clicking on the right side lets you copy a rectangular area onto a brush and then place it anywhere, leaving the original untouched.

REPASTE
Only used after a cut or copy, repasting places the area that is cut into a brush and it can be used as many times as you need it.

CLEAR SCREEN
This function wipes all paint from the current canvas. You'll be asked to confirm the action before losing your current masterpiece.

UNDO
Restores the image to its position before your last action. For example, if you have just drawn a big smile on the face of the Mona Lisa, then undoing it will remove her grin. This can also be used to bring back the contents of a screen immediately after clearing it.

OBJECTS

Objects are something exclusive to Paintpot

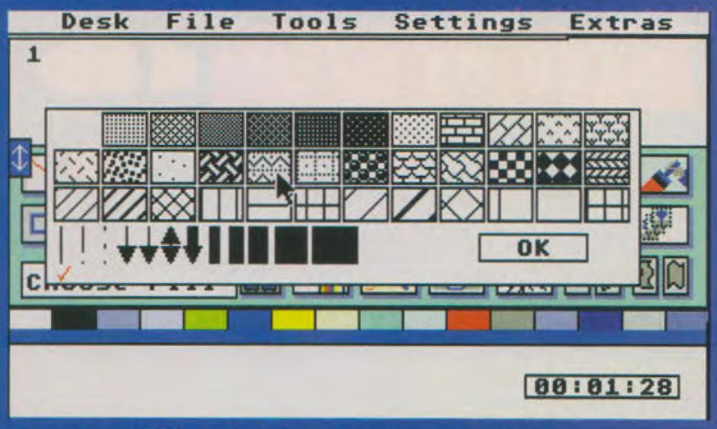
Unlike any other form of graphic data used by art packages, an Object is a series of points joined by lines – rather like a two-dimensional vector drawing. The computer stores the relationships between the points rather than the positions themselves, so that an object can be moved around, rotated, enlarged, flipped and shrunk again without ever losing its original shape. To get the idea of this, load up the "HOUSE.OBJ" on the main program disk using "Load Object" from the "File" Menu, and then click on the Object icon.

PALETTE
Lets you change the currently selected colour to the colour of your choice using the RBG system. The three tubes are your three base colours, and mixing them in varying degrees creates all the colours your ST can show (512 on an ST, 4096 on an STE). Clicking on "Restore Palette" returns the colours to their ORIGINAL SHADES ON BOOT UP, NOT THE ORIGINAL COLOURS OF ANY PICTURES YOU MAY HAVE LOADED!

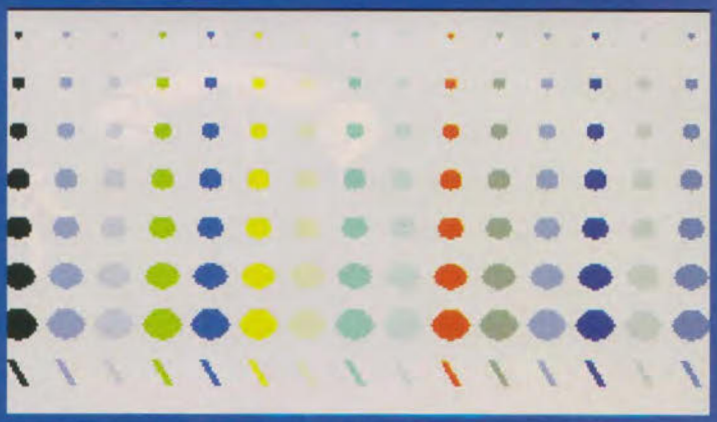
BRUSH
This displays all the hardware brushes available in a range of sizes and colours. Clicking on one with the left mouse button means that all drawing operations will be done with that brush.

BOXES
This lets you draw a perfect rectangle in the current colour and fill style. If you want to draw a hollow box, click on the left side of the icon and if you want to draw a solid (filled) box, click on the right.

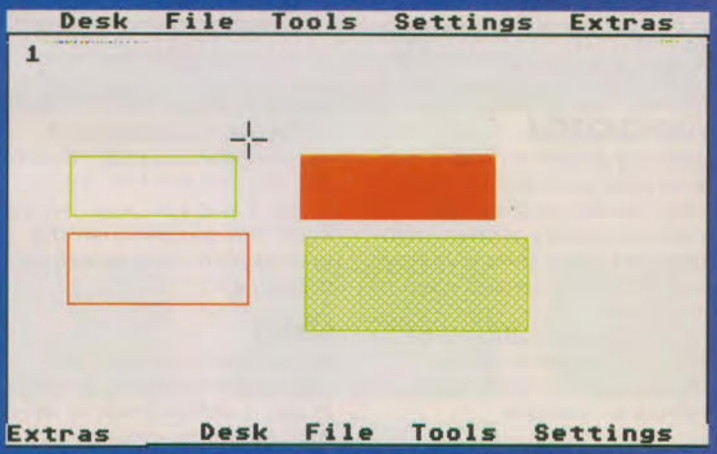
The box is drawn by clicking and holding the left button on the point where you want the top left corner of the box to be and then dragging the pointer to the point where you want to place the bottom right corner. Releasing the button places the box.



Choosing a fill from the 36 system patterns available.



The hardware brushes. You don't have to choose one of these – you could always grab an area of the screen and use that instead.



On the left, a hollow box and on the right, a filled one.

Altering some text. This submenu appears after you have entered a small line of text and lets you choose how it's displayed on screen.

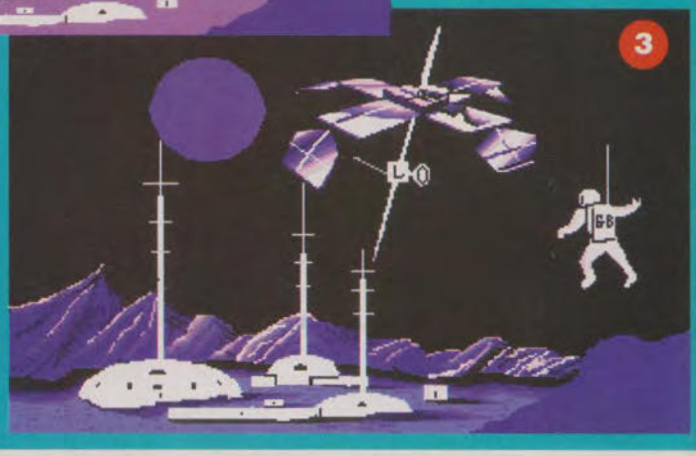
STEP BY STEP

Follow our instructions to create a space scene

1 *The first thing to do is to block out your basic picture with some solid colours. This helps you layout your image and ensure that the scale is correct.*

2 *Now start adding some details to the satellite and landscape. Most of ours was done freehand in zoom mode, but the bases in the valley are ellipses with some detail added to the bottom edge.*

3 *Next add some poles to the bases. This is done by simply drawing some straight lines using the line draw tool.*



ROUNDBOXES
These are exactly the same as normal boxes, except that the corners have been rounded.

ELLIPSE/CIRCLE
Drawing circles and ellipses is as easy as drawing boxes. Click where you want to place the centre of the circle, and then move the mouse to extend the radius and change the shape.

As before, the left side of the icon selects a hollow shape, and the right side selects a filled one.

TEXT
Prompts you to enter a short line of text. Once entered, you are given a sub menu, from which you can alter the style of the text.

"Change Size" cycles the text through the four available sizes, "Change Style" cycles through the 31 different styles available (bold, italic, underline etc), "Rotate" lets you flip the text clockwise through 90° and "Move Text" lets you position the text anywhere on screen by dragging it.

SPRAY
An airbrushing tool, this sprays the currently selected brush multiple times in random positions around the mouse pointer.

The type of spray that you use can be changed to suit your needs with the "Settings" drop-down menu.

ERASER
Works like the freehand draw tool, only it rubs out the area underneath the pointer rather than draws on it.

PIE/BAR CHARTS
An automatic way of displaying information. The left side of the icon selects pie charts and the right selects bar graphs. Both times you are asked for the values to be displayed and the computer does the rest. Whether the segments/bars are filled is entirely up to you.

ROTATE
Using the left button, you define a rectangular area of the screen, in the same way that you would draw a box. Moving the mouse left and right now lets you rotate the selected area of the screen about its centre.

OBJECTS
This tool lets you manipulate the object in memory. Once selected, you can rotate and resize the object freely and then stamp it onto the canvas with the left button. To rotate it, move the mouse left and right, and to resize, move it up and down.

IMAGE BRUSH
This works in exactly the same way as an ordinary brush, except that the brush is picked up from the main picture rather than from a set of hardware brushes.

The size of the brush can be set with the "Parameters" option underneath the "Settings" menu.

MULTISPRAY
Like spray, this works as an airbrushing tool, only it sprays in random colours selected from the palette using the "Spray Colours" option in the "Settings" menu.

MAGNIFY
Clicking on the left side of the icon gives x5 magnification whilst clicking on the right gives x10.

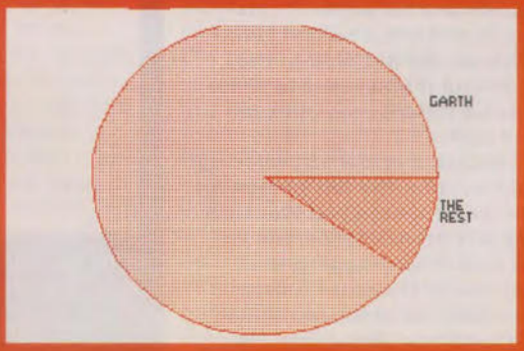
Once you have selected your

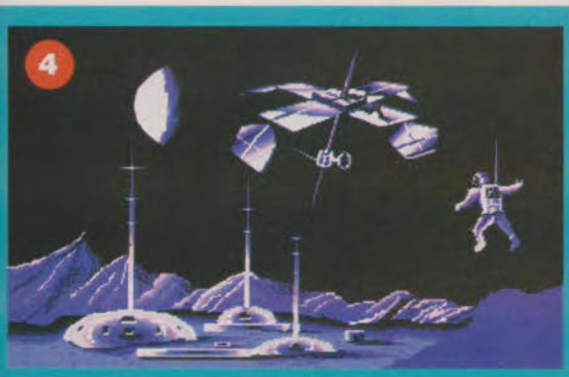
PIE CHARTS

If you've ever wanted to make that maths homework look a little special, Paintpot has a few tricks to teach you

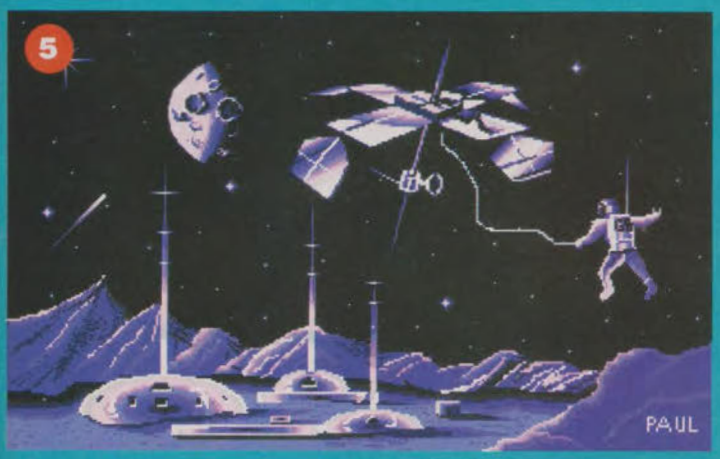
Although any art package can be used for creating presentations, it's rare that one has tools just for that. The pie charts and bar graphs are all mathematically correct and can give you some stunning results in no time. Look at this pie chart for example. All it took was the relative figures and a little experimentation with the Text icon to give the whole picture.

A pie chart showing the relative popularity of staff in the office.





4 To give the show that little extra depth, we've used some contour shading on the poles and the moon in the sky.



5 To tidy up, try adding some final details by hand, and then draw a couple of stars in the sky.

TEXT

Venture into a little importing...

Not only does ***Paintpot*** let you enter text the traditional way – through the keyboard – it can also import text files saved in ASCII standard from most word processors. This turns the package into a simplified DTP system, if you don't mind a little work to line everything up.

level, a box appears underneath the mouse pointer, and using the left button, you can select the area of the screen you want to magnify. The right button exits.

MIRROR

Define the area to be mirrored in the same way you would draw a box. Now, clicking with the left button on any side of the area that you have marked will copy a mirror image onto that side of the picture.

SHATTER

This is an interesting effect. The left side of the icon selects a solid colour shatter and the right side selects a shatter in the current fill pattern. It's a little difficult to explain what this effect does, so just try it and see.

The size of the effect can be changed using the "Parameters" option which is found in the "Settings" menu.

SKEW

There are two icons for this option – Skew X and Skew Y. This lets you select a rectangular area of the screen and then slide a side in either the X or Y plane to give an italicised effect.

BEND

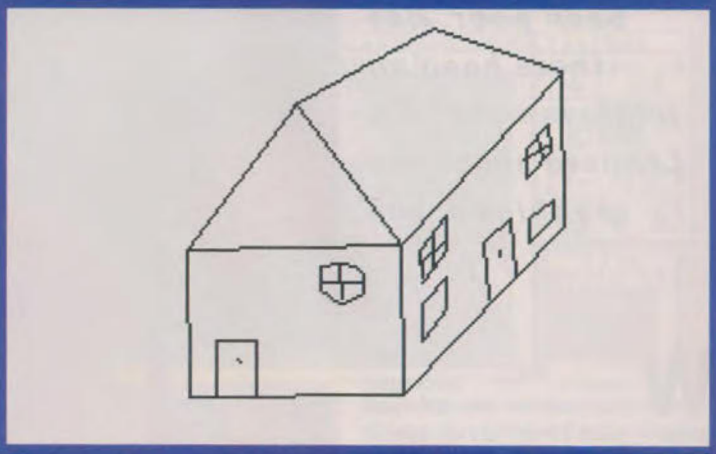
This works in the same way as Skew, but you bend the selected area rather than slide it. There are five different effects under Bend which can be selected using the "Parameters" option.

AND FINALLY

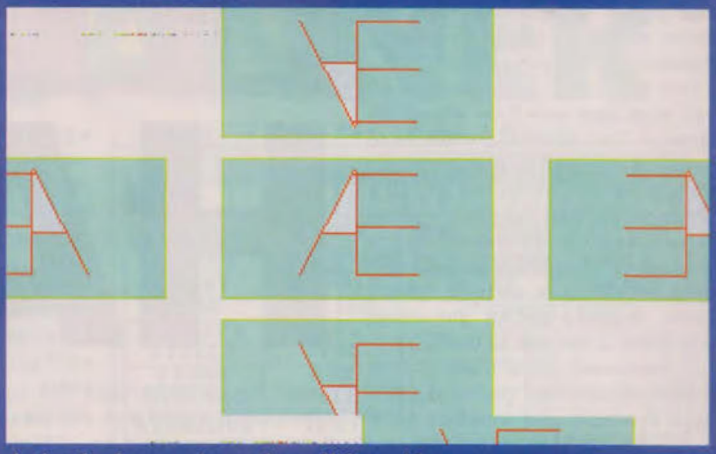
That should give you enough information to keep you busy for quite a while. The key to creating some really stunning effects is experimentation – remember you can't break the software, and anything you do that doesn't give the desired effect can quite easily be undone.

If you manage to come up with something really special, please send it in to us at the usual address and who knows, with a bit of luck you might even get it printed in these hallowed pages!

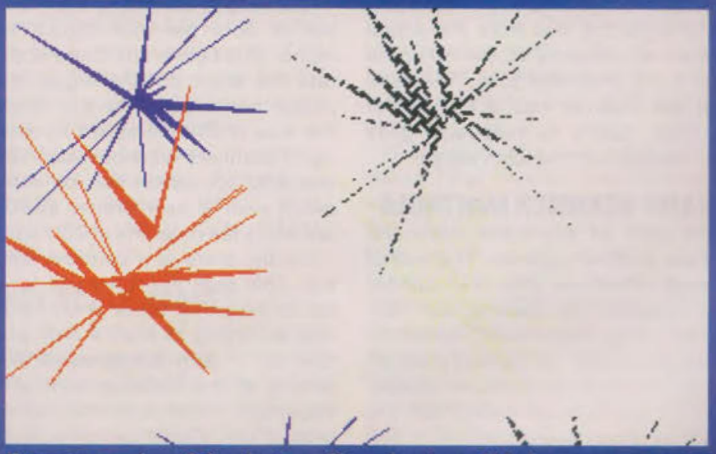
The different types of airbrush sprays. From the left they are: dots, lines, boxes, filled boxes, ellipses and filled ellipses.



The house object on the disk. No matter how much you swing the mouse about, you can't make it lose its original shape.



A simple shape, mirrored on all four sides.



Some examples of the shatter effect. Again, solid shatters are on the left and filled shatters are on the right.

The three scanners under test. From left to right: the Naksha Scanner, the Pyramid Scanner and the Power Scanner.

THAT'S HANDY!

While hand scanners have been around for years, the software has often been poor. Has there been an improvement? Vic Lennard scans the graphics scene

While there are some reasonable art packages available for the ST, you certainly need to be very artistic to be able to create your own images on a computer screen. Make no mistake, it is easier to use a pencil and paper, especially as you can cheat a little by using an existing idea and tracing paper.

This is all very well, but how do you duplicate your final image on-screen? The obvious answer is to use a scanner. A scanner? Aren't they expensive items the size of a photocopier? Not the hand variety. A hand scanner is small enough to be used on a table top and is operated by rolling a narrow, 10 cm wide, window across the image you want to transfer to the ST.

In hardware terms there is little difference between the hand scanners available. An interface with two small sockets plugs into the ST's cartridge port. A mains power adaptor plugs into one of the sockets while the lead from the actual scanner connects to the other via an 8-pin mini DIN plug. The base of the scanner has a number of rubber rollers to help you glide smoothly over the scan object.

HAND SCANNER CONTROLS

On each of the hand scanners, there are four controls. The first of these effectively sets the number of "shades" the scanner can handle, going from "text", which is monochrome, to "photo", which can be made up of many colours. While the scanner cannot tell the difference between colours, it can recognise the intensity. Up to 16 degrees of intensity can be recognised; for instance, dark red and light purple would look the same, but would certainly be different from pale yellow.

The second control is the number of dots per inch (dpi). The higher this figure, the more accurate the scan, but the bigger the image on screen and the larger the size of the file saved to disk. Hand scanners work between 100 and 400 dpi which can be compared with a laser printer at 300 dpi and a fax machine at 200 dpi.

Thirdly, there is a contrast control. This sets the threshold for a dot to be either black or white. If you are trying to scan a dark picture on a light background, the setting of the contrast control is important otherwise the background will also show on screen. Erasing it pixel by pixel will take a lot longer than taking three or four scans until, finally, the correct result has been obtained.

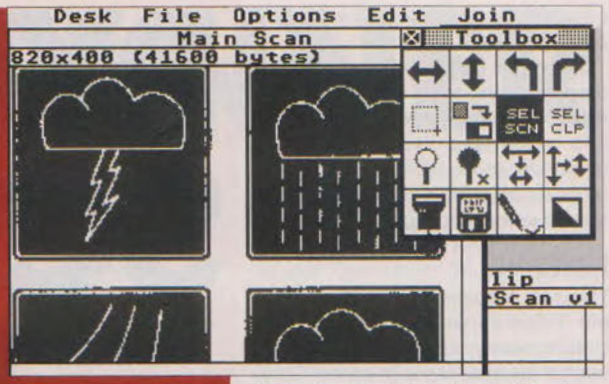
The final control is the Start button which is held down as the scanner is moved slowly across the picture. There is a small window through which you are able to see the picture or text you are scanning – this is lit up by a green/yellow light.

There will usually be a red light on the top of the scanner to warn you when you are moving too fast across the picture.

INSIDE INFO

Imagine that you have a square made up of 16 small square cells, and that each of these cells can be either black or white. Now make three of these cells black and leave the remaining 13 white, put a large number of these squares together and view the resulting pattern on a screen or on paper. Rather than see an array of very small black and white cells, or even individual squares, you would see a pattern which appeared to be a light shade of grey. By increasing the number of black cells in each square, the shade of grey would appear to darken. This is known as "dithering", and by using different "dither patterns", very realistic pictures can be created.

Using 16 cells allows for 16 different shades, or "half-tones" as they are usually known. By using an 8x8 square, this would be increased to 64 half-tones. Another option is to assign a different shade of grey to each of the half-tones and to view a picture in terms of "grey scales".



Scanning straight black and white pictures gives very good results. While there are slight inaccuracies around the edges, these can be edited within an art program.

PowerScan can interpret 16 intensities of colour in real time and assign shades of grey and other colours to these.

POWER SCANNER

The Power Personal Scanner 64 comprises the hand scanner, cartridge interface and mains adaptor, the latter having enough cable to connect to a far away mains socket

On start-up, the PowerScan software presents you with three windows for the Main Scan, Clipboard and Toolbox. To take a scan, select New Scan from the Options menu and enter the height and width from the Scan Options dialogue box.

This also tells you the number of bytes that this particular scan will require and the current size of usable memory. Hit Start and move the hand scanner over the picture which appears in real time on the screen in front of you.

Editing is relatively basic; scans can be rotated in either direction and flipped over both vertically and horizontally.

Cut, copy and paste facilities are on offer; parts of the scan can be copied (or cut) to the Clipboard and then pasted elsewhere in the scan window.

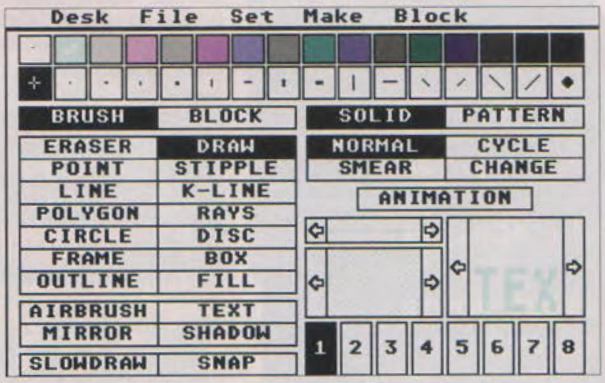
You can blank out an area and zoom in and out to see certain parts of the scan more clearly. There's a pencil, for drawing additional lines on a scan, or filling in the odd pixel, and you can invert the black and white parts. One bind is that there is no "undo" function, so any changes remain to haunt you indefinitely.

Scans can be saved in various formats, including; PowerScan (.PWS), Degas (PI1, PI3), Neochrome (.NEO), GEM (.IMG), and Source (.C).

Easy to use software
Real time grey scale scanning
Can save in various file formats

PROS AND CONS

An art program required for any serious editing
Current printing support only for 9- and 24-pin Epson-compatibles
No Undo function



By loading a PowerScan grey scale picture into Degas Elite, the 16 "grey" scales can be clearly seen in the colour palette.

GREY SCALE IMAGES

A unique feature of this program is its ability to scan real time in 16 grey scales. Actually, they're not really all greys; a palette is set up for 16 colours between white and black, and there are only eight steps available for each of red, green and blue. The palette used here incorporates hues of blue and green as necessary, but the result is certainly very pleasing to the eye.

Working with a low resolution colour TV or monitor, Scan Grey is selected from the Options menu, the size is set as before and the grey scale scan appears on screen. This can be saved as a Neochrome (.NEO) or Degas (.PI1) file for import into either of these painting programs. This is a great feature as you can take colour photographs, scan them in and then edit the colours in an Art program if you wish.

Any monochrome picture can be

converted to grey scale for further editing as well.

One other feature is that of scanning in strips; the ScanJoin facility lets you break a large picture down into strips and then place them back next to each other in order to rebuild the original picture. The results were pretty good.

PRINTING

You can print to either a 9- or 24-pin Epson-compatible printer. Unfortunately, there's no support yet for inkjet or laser printers. Grey scale images have to be saved and printed from another program – PowerScan simply gives you an alert box telling you that it can't print them.

PLUSES AND MINUSES

There are a couple of complaints with this one. The first is that you can't show the complete scan on-screen. In other words, you can't zoom in beyond the original size, so you can't get a complete overview of the scan.

The second is that you can't turn the scanner light off – in fact, it stays on even after you quit PowerScan. This means that you have the inconvenience of turning the ST off, disconnecting the interface cartridge and rebooting, which is a necessity as the power supply gets extremely hot.

However, the good points by far outweigh the bad with this scanner, especially as PowerScan will happily run on a 520 ST (although the scan length is then restricted).

"The only scanner with software that can scan an image in 16 shades of grey/colour"

NAME: POWER PERSONAL SCANNER 64
COMPANY: POWER COMPUTING
CONTACT: 0234 843388

PRICE: £99
RELEASE DATE: OUT NOW
MIN MEMORY: 0.5 MB

EASE OF USE	✪✪✪✪✪
DOCUMENTATION	✪✪✪✪✪
EFFECTIVENESS	✪✪✪✪✪
VALUE FOR MONEY	✪✪✪✪✪

OVERALL 88%

PYRAMID SCANNER

This scanner is suitable for quick and easy work

The Pyramid ScanKit is the most basic of the trio. All you can do is scan and save as a .IMG file.

The cartridge port is used for various other items such as copy-protection keys for music programs, digital audio hardware and so on. Understanding this, the manufacturers of this scanner have used a cartridge port expander arrangement. A small piece of hardware connects to the cartridge port and has a "through" connector for another cartridge along with a length of ribbon cable.

This connects to a small box which has a two position switch on the front to select the scanner or the cartridge through port. The mains adaptor connector also plugs into the box.

Again with proprietary software, the Pyramid scanner uses a program called ScanKit which is very much a scan-it-and-run program. In fact, no manual is provided. There are no options apart from ScanIN which brings up a dialogue box where you can set the scan length. A click on "OK" turns the scanner light on and that's it – you simply haul the scanner across the picture. At the end of the scan, the image appears on-screen. The size depends on which resolution you are using, and there is a "Show Full" option to view the entire scan on-screen.

SAVING TO DISK

Scans can be saved to disk only as Gem (.IMG) files. While this is fine for the likes of ***First Word Plus*** and various DTP programs which will accept such a format, you can't load a scan into an art package like ***Degas Elite*** and edit it. At a bare minimum, the ability to save as a ***Degas*** file should have been offered.

LIMITATIONS

While the Pyramid scanner is a little cheaper than the others, the software is certainly very basic and would only be recommended for quick and easy situations such as a simple piece of line art, in clear black and white. By the way, if you stop a scan before reaching the set length, you get the message "You give up scan full length. Please try again"....

Very easy to use
Cartridge port expander included as standard
Cheaper than the competition

PROS AND CONS

No editing facilities
No printing
Only saves as a GEM Image

"The software is of the Scan-it-and-save variety; it offers no editing and only GEM Image file saving format"

NAME: PYRAMID SCANNER
COMPANY: GENLOCK LTD
CONTACT: 0257 472866

PRICE: £79.99
RELEASE DATE: OUT NOW
MIN MEMORY: 0.5 MB

EASE OF USE	✪✪✪✪✪
DOCUMENTATION	✪✪✪✪✪
EFFECTIVENESS	✪✪✪✪✪
VALUE FOR MONEY	✪✪✪✪✪

OVERALL 70%

NAKSHA SCANNER

The name of Naksha is synonymous with high quality optical items for the ST, and this is no exception

MiGraph's Touch-Up, which comes with the Naksha scanner, is very powerful. Scans are clean, and the toolbox allows you to carry out both scan and art edits.

Although this scanner appears to be similar in build to the other two, the Naksha has the Scan Start button on the top of the unit so that you can press the button and use the pressure of your hand to move it in a straight line.

The manual is sketchy to say the least. No explanation is given for the two slide switches on the side of the unit. The one labelled H, M and L apparently coincides with 400, 300 and 200 dpi while the one on the other side with 1, 2, 3 and 4 marked on it must be for the degree of dither. In fact, only eight pages of the 240-page manual are about the scanner. The remainder is a full manual for the MiGraph ***Touch-Up*** software which comes with the Naksha. ***Touch-Up*** is probably the most powerful all-round scanning program for the ST: not only does it allow you to scan in pictures and text, it is also a fully-featured art package which uses GDOS for printing.

SCANNING WITH TOUCH-UP

A click on the Scanner icon brings up the various icons; you can scan onto the whole page, or into a clip area. The image appears real time on-screen and the result is very accurate; solid black is solid black, while colours are shown via a dither pattern. The original scan can then be edited in many ways. Imagine that you can load a scan into a program like ***Degas Elite*** but with more fill patterns, Bezier curves for accurately defining areas, comprehensive spray and line creation options with Paint and Draw modes and the ability to work with 10 built-in typefaces. The toolbox is particularly nice with most of the menu options being available at the click of a button.

By drawing a Clip Box around any part of a scan, you can restrict edits to specific items. Edits include rotating, flipping, mirroring, slanting and even processing, where you have the choice of cleaning up the white and/or black areas, making the black part bolder, masking out an area for further editing, or outlining, which removes all solid black areas. All edits occur at lightning speed; you rarely have to wait for the ST's busy bee to do its work. Unfortunately, there is only an Undo function in Paint mode – there certainly should be one for all functions due to the power of this program. Because of this omission, frequent saves to disk are the order of the day.

Other features include hard drive caching, for handling large image files, and saving in a large number of file formats; Graphics Interchange Format (.GIF), Gem (.IMG), PC Paintbrush (.PCX), Tagged Image File Format (.TIF), Degas (.PI1, PI2, PI3), Interchange Format File (.IFF) and MacPaint. Most of these are for transference to PC and Apple Mac applications.

One final feature worthy of note is the way that Touch-Up can convert dithered images to grey scale and save either as a TIFF or an IFF. Various options are given, and you certainly need to know about these formats to get the best results. As 16 grey scales are saved, any pre-STE Atari will not be able to make use of them due to their limited colour palette. That said, a TIFF saved in this way loaded onto Apple Mac and PC programs with no problems.

Touch-Up is immensely powerful
Supports GDOS for printers
Large variety of file formats supported

PROS AND CONS

Touch-Up takes time to learn fully
Limited Undo function

"The Touch-Up software included is immensely powerful; a full scan editing and art package rolled into one"

NAME: NAKSHA SCANNER
COMPANY: NAKSHA UK LTD
CONTACT: 0925 56398

PRICE: £99
RELEASE DATE: OUT NOW
MIN MEMORY : 0.5 MB

EASE OF USE	✪✪✪✪✪
DOCUMENTATION	✪✪✪✪✪
EFFECTIVENESS	✪✪✪✪✪
VALUE FOR MONEY	✪✪✪✪✪

OVERALL 93%

VERDICT

With all three scanners being practically identical in terms of their hardware, any assessment of their performance has to focus more on the proprietary software included.

In this regard, ***Touch-Up*** has no equal, being a fully-fledged scan editing and art program rolled into one. While certainly not the easiest program to use, the results it can achieve are excellent as it allows you to take a basic scan and embellish it as you wish.

If you already have a good art program such as ***Deluxe Paint***, then the Power Personal Scanner is certainly worthy of serious consideration. The software supplied with this one is very easy to use and can also achieve good results. The real time "grey scale" images are very impressive and they can be loaded into ***Degas Elite*** or an equivalent art package for editing, even if you're working with the limited colour palette of a pre-STE computer. For a full breakdown of the specifications of each scanner, see the buyers guide.

BUYERS GUIDE

Our at-a-glance buyers guide shows how the three hand scanners match up

	POWER PERSONAL 64	PYRAMID	NAKSHA
Company	Power Computing	Genlock Ltd	Naksha UK Ltd
Contact	0234 843388	0257 472866	0925 56398
Software	PowerScan	ScanKit	Touch-Up
Real Time Image	Yes	No	Yes
Scan Editing	Yes	No	Yes
Art Editing	No	No	Yes
Number of file formats	6	1	9
Printing	9/24 pin	No	GDOS

Country Wide Computer Marts

19 Ashmore Close
Blandford
Dorset
DT11 7UH
Telephone: 0258 453730
Fax: 0258 453502

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27th Sept 92	**Blackbird Leys Leisure Centre,**	**OXFORD**
4th Oct 92	**Tamerside Sports Complex,**	**PLYMOUTH**
11th Oct 92	**Kimberley Leisure Centre,**	**NOTTINGHAM**
18th Oct 92	**The Junction,**	**CAMBRIDGE**
25th Oct 92	**Knutton Leisure Centre,**	**NEWCASTLE-UNDER-LYME**
1st Nov 92	**Whitchchurch Sports Centre,**	**BRISTOL**
8th Nov 92	**Danes Camp Leisure Centre,**	**NORTHAMPTON**
14th Nov 92	**Western Leisure Centre,**	**CARDIFF**
29th Nov 92	**Bob Carter Memorial Youth & Leisure Centre,**	**NORWICH**
13th Dec 92	**Hillsborough Leisure Centre,**	**SHEFFIELD**

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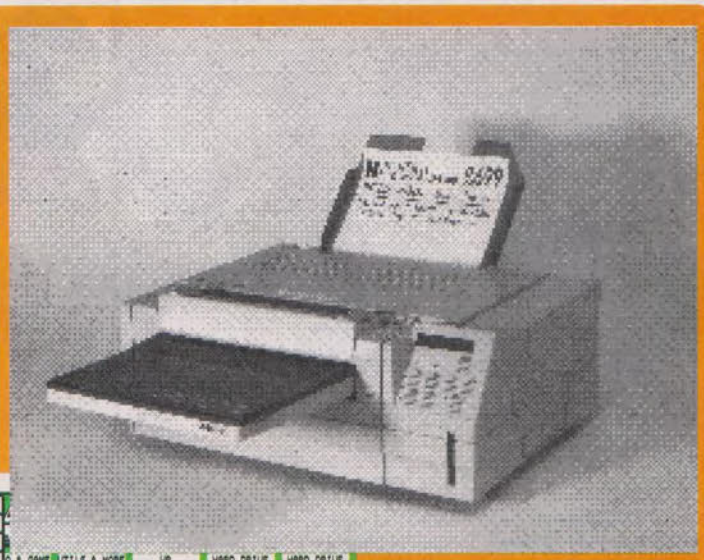
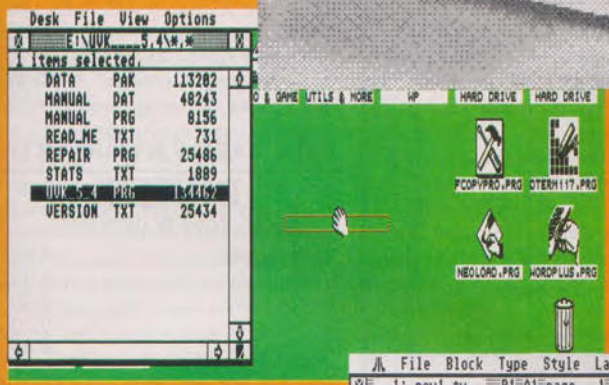
Simon Empson
Country Wide Computer Marts

Telephone 0258 453730
Fax 0258 453502

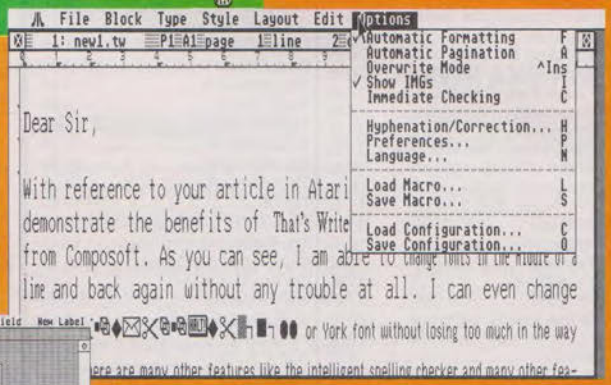
PRODUCT TESTS



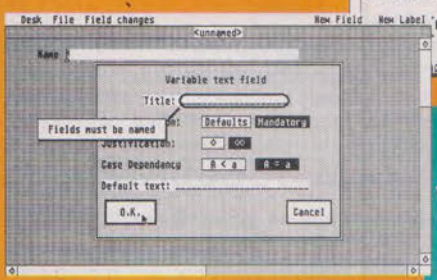
Thinking of upgrading to a laser? Don't make a decision until you've had a look at our comparative tests.



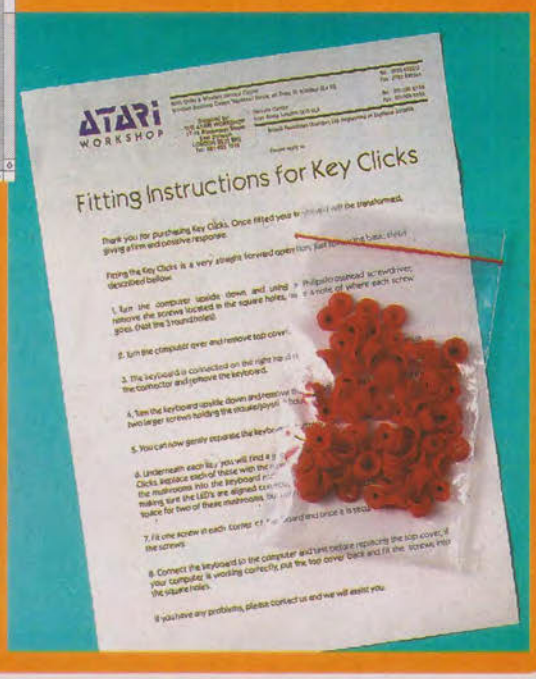
TOS 2.06, a new desktop to improve performance?



Spell checking in German? Just part of the attraction of That's Write 2.



KData, just one of the many databases available. Check page 55 to find out which one is for you.



Upgrade your keyboard to give it a more positive 'feel'. Details on page 64.

Amongst the products reviewed this month are laser printers, hand scanners, the TOS 2.06 upgrades and the latest version of Composoft's word processor, That's Write 2.

Advances in technology mean that the price of professional printing has tumbled. The latest generation of low-cost, high specification laser printers has begun. We look at the latest Ricoh printer and compare it with its peers...

Hand scanners are becoming more popular for both DTP and graphic applications. We look at what's available and tell you which one is the best buy.

TOS 2.06, the Mega ST's operating system, is now available as an upgrade for your ST. We take a look...

Finally, we look at the latest upgrade to That's Write and see what extras it has to offer.

ST Review product tests are second to none. So if you want value, read on!

AMAZING PRICES FOR ATARI USERS

GAME	PRICE
2 - Hot 2-Handle (Comp)	20.95
20000 Leagues Under the Sea	6.96
3D Construction Kit	26.95
4 Wheel Drive (Comp)	20.95
A.P.B.	6.96
A320 Airbus	25.99
Action Masters (Comp)	20.95
Addams Family	17.45
ADI English (11-12)	17.45
ADI English (12-13)	17.45
ADI Maths (11-12)	17.45
ADI Maths (12-13)	17.45
Advanced Destroyer Sim	7.95
Advanced Fruit Machine	5.95
Advantage Tennis	17.45
After Burner	6.96
Agony	17.45
Air Sea Supremacy (Comp)	20.95
Alcatraz	17.45
Altered Beast	6.96
Another World	17.45
Armour Geddon	17.45
Award Winners (Comp)	17.45
Ball Game	6.96
Barbarian II (Budget)	6.96
Barbarian II (Psygnosis)	17.45
Bat	23.95
Batman - Caped Crusader	6.96
Batman - The Movie	6.96
Battle Chess	8.95
Beastbusters	17.45
Better Spelling (8-adult)	17.95
Billiards 2 Simulator	17.45
Bitmap Brothers - volume 1	17.45
Bitmap Brothers - volume 2	17.45
Blue Max	20.95
Board Genius	17.45
Bonanza Brothers	17.45
Brain Blaster	6.96
Brides of Dracula	17.45
Bubble Bobble	6.96
Cadaver - The Payoff	11.95
Captain Planet	17.45
Captive	17.45
Carl Lewis Challenge	17.45
Carrier Command	7.95
Cartoon Collection	17.45
Champions (Comp)	13.95
Championship Manager	20.95
Chart Attack - vol 1 (Comp)	20.95
Chase HQ I	6.96
Chips Challenge	17.45
Chuck Yeager 2	8.95
Cisco Heat	17.45
Civilisation (1Mb)	23.95
CJ in Space	6.96
CJ in the USA	6.96
Colossus Chess X	17.45
Combo Racer	6.96
Continental Circus	7.95
Cool Croc Twins	17.45
Cruise for a Corpse	19.95
Cybercon III	17.45
D-Generation (1Mb)	14.95
Daley Thompson's Olympic Challenge (Not STE)	6.96
Deluxe Paint	40.95
Demon Blue	6.96
Deuteros	20.95
Devpac ST V2.25	31.95
Dizzy Collection	17.45
Dizzy's Excellent Adventures	17.45
Double Dragon I	7.95
Double Dragon II	7.95
Double Dragon III	17.45
Dragon's Lair - Singes Castle	23.95
Driller	6.96
Dune	20.95
Elf	17.45
Elvira - Arcade Game	17.45
Elvira II	23.95
Emlyn Hughes Int. Soccer	7.95
Epic	20.95
Erik	6.96
Euro Football Champ	17.45
European Championships 1992	17.45
Exile	17.45
F-15 Strike Eagle II	23.95
F-16 Combat Pilot	17.45
F-19 Stealth Fighter	20.95
F-29 Retaliator	17.45
Falcon	11.95
Falcon - Counterstrike Data Disk	7.95
Falcon - Firefight Data Disk	7.95
Fantasy World Dizzy	6.96
Fast Food	5.95
Final Blow	17.45
Final Command	6.96
Final Fight	17.45
Fire and Ice	17.45
First Letters (under 5's)	6.96
Fists of Fury (Comp) (Not STE)	17.45
Flight Simulator 2	23.95
Flood	8.95
Football Crazy (Comp)	17.45
Formula 1 Grand Prix (MP)	23.95
Fun School 3 (5-7)	17.45
Fun School 4 (5-7)	17.45
Fun School 4 (7-11)	17.45
Fun School 4 (under 5's)	17.45
G-Loc	17.45
Galactic Empire	6.96
Gauntlet II	6.96
Gauntlet III	17.45
Ghostbusters 2	6.96
Gobliiins	17.45
Godfather	20.95
Gods	17.45
Golden Axe	7.95
Golden Eagle	17.45
Graham Taylor's Soccer	17.45
Great Napoleonic Battles	20.95
Guy Spy	20.95
Harlequin	17.45
Head Over Heels	6.96
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THE MAGNIFICENT SEVEN

Lasers are complicated beasts. Like most things electronic, they have become less expensive, more intelligent and, ultimately, better. John Mallinson looks at a representative sample of lasers which sell for well under £1000

Laser printers are often referred to as "page printers" since, unlike a dot matrix with which information is sent from the computer and printed one line at a time, they compose a whole page in their internal memory before putting anything down on paper. If the printer doesn't have a large enough memory then only part of the page will be printed or it will be split over two sheets, which isn't much use. If you are only ever going to print straight text then the standard 0.5 or 1MB will be enough, but graphics or DTP output will need at least 1.5MB, or possibly more.

When comparing prices, remember to add the cost of extra memory – the Ricoh (with 2MB) is the only one tested that wouldn't need upgrading immediately.

TALKING THEIR LANGUAGE

Just as Epson is the biggest name in the dot matrix printer world, so Hewlett-Packard is the leader when it comes to lasers, which is a bit unfair on Canon who designed and produced most of the working parts (the engine) of HP lasers. All the major printer manufacturers produce laser printers, but HP has created the standard "language" by which the computer controls them. This is known as PCL (Printer Command Language) and the latest version found in the HP LaserJet III and others that emulate it is PCL level 5. The older LaserJet II and compatibles used PCL4. The most obvious difference is that scalable typefaces are built into PCL5 machines – these are typefaces which can be produced at almost any size by the printer when given a few simple commands by the computer. This means that the text can be rotated to any angle and graphics printing is faster.

AND POSTSCRIPT TOO

PostScript is another printer control system which is a complete programming language, dedicated to controlling an output device, usually a laser printer or imagesetter, but possibly a computer's screen display. PostScript was born in 1982 and is used extensively on the Mac, although an increasing number of programs for the ST can drive PostScript printers. Compared to the PCL printer command system it is more sophisticated and flexible.

If you save a document or image as a PostScript file the result is a long set of instructions which gets sent to the printer and a PostScript interpreter translates the text to create the dot image you eventually end up with on the page. For PostScript printing you'll need a PostScript interpreter board or cartridge to fit into your printer and at least two Megabytes of printer memory.

If you need PostScript (or think you may in the future), two of the present bunch of printers can be upgraded in that direction, but it won't be cheap. Expect to pay at least half the price of the printer itself for the privilege.

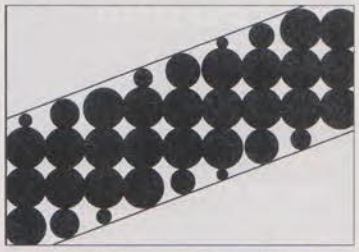
FINER AND FINER

Another innovation from HP is Resolution Enhancement Technology (RET), which is also found on some other machines under different names. Laser printers put dots of toner onto a page – 300 to the inch in either direction. Normally these are all the same size so diagonal lines and curves can appear slightly ragged. With RET the dot size can be adjusted so that the outlines of characters will be filled more accurately and become smoother.

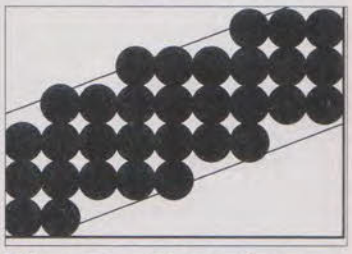
You'll need to be sharp to spot the difference, but if you're the sort of person who examines their documents with a magnifying glass, this will almost certainly appeal to you. RET is not part of PCL5, it simply happens to have been developed at the same time.

Lasers are actually capable of a much higher resolution than 300dpi – the Ricoh does 400, and most of them should be mechanically capable of 1200!

For this they'd need a lot more internal processing power and memory. The new 1200dpi machines that are just reaching the market are very expensive, but word has it that we will all be using 600dpi printers within a year or two.



RET altering dot size to smooth the line.



A diagonal line with dots spilling out.

THE WORKS

Transferring the electronic image of the page from the printer's memory to paper happens in a

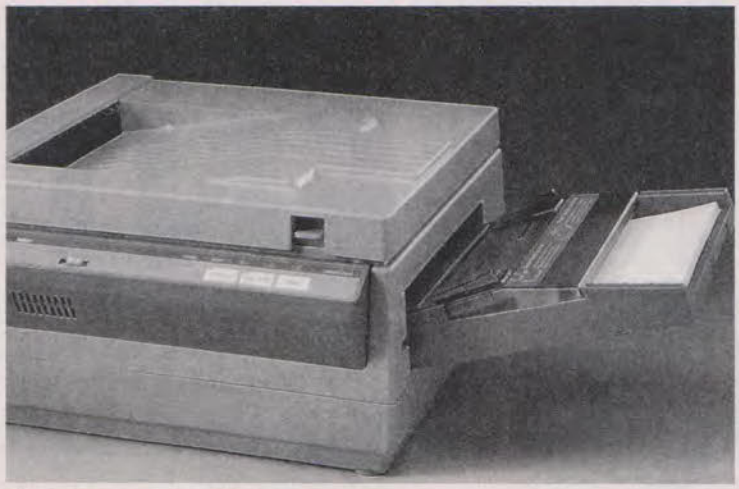
The heart of the machine is a photosensitive drum, a metal cylinder coated with special material that becomes electrically conductive when exposed to light. The laser itself pulses on and off to produce the dots on the page. A rotating mirror system focuses the flickering laser beam on the drum which scans it to produce a row of dots; then the drum rotates for the next scan line.

The drum starts off negatively charged. Where the laser strikes it, its coating becomes conductive and the charge leaks away. Once the laser has scanned the drum and left an electrostatic image of the page on it, toner is applied. Toner too is given a negative charge, and as like repels like, so the toner doesn't stick to the negatively charged parts of the drum – the only areas that are coated are those that the laser beam has struck.

Next the toner is transferred to paper. About three rotations are needed to complete the transfer. to an A4 page. Finally the toner is fused to the paper by passing it between heated rollers.

A couple of problems are that some paper doesn't like being heated and will crinkle, and high voltages are needed to generate the various electrical charges. In some machines this causes ozone to be produced, although many now have a charcoal ozone filter to deal with this.

ATARI SLM 605



The SLM605 - pretty quick but over-priced these days.

An ungainly looking machine with some major drawbacks

Atari lasers are still available and selling for much less than they used to. The original SLM 804 was released a couple of years after the ST, and the current version two years ago. Because the 804 didn't sell in large numbers, spare parts and toner cartridges were hard to come by. The 605 has a different print engine so luckily you're not reliant on Atari's irregular supplies.

INDIVIDUAL

The Atari laser is different from the rest. It has no internal memory or processing power. Instead it relies on your ST to process and organise each page, and the data is then sent to the printer through the very fast DMA (Direct Memory Access) port, rather than via the parallel route. This idea has both advantages and drawbacks: printing is very fast, and the relative simplicity of the machine should make it cheap (though in fact it doesn't). On the other hand, you need at least one Megabyte of memory installed in your computer, you can't use the computer for anything else whilst printing and, of course, it can only be used with the ST or TT - none of the other printers mind what sort of computer is talking to them.

NOT A PRETTY SIGHT

The machine is ungainly looking with its few controls situated down one side. Paper will normally feed out on top, but you can also switch to a more direct path which feeds out at the back. Connection to the DMA port is via a hefty cable and interface box.

The SLM 605 has no internal fonts. To print from text-only programs such as ***Protext***, therefore, you need a desk accessory which will load in fonts when you are ready to print. The print quality, however, is very good.

The main virtue of this machine is its speed which, especially for graphics and DTP work, is remarkable. If it were selling for between £200 and £300 less than it actually is, it would be good value, but at its present price it has curiosity value only.

"Very fast but over-priced and can only be used with ST/TT"

NAME: ATARI SLM 605
COMPANY: ATARI UK LTD
CONTACT: 0753 533344

PRICE: £699
Toner cartridge (1,500 pages) £28
Drum unit (10,000 pages) £128

DESIGN	●●●○○
EASE OF USE	●●●○○
PRINT QUALITY	●●●○○
SPEED	●●●●○
FEATURES	●●●○○
INSTRUCTIONS	●●●○○
VALUE FOR MONEY	●●○○○

OVERALL 63%

EPSON EPL-4300

Epson's EPL-4300 – many options, fine print.

Epson's new laser printer provides superb quality

This is a nicely-styled new machine which has LaserJet III compatibility and understands Epson laser and dot matrix commands. There is a cheaper and older version, the EPL-4100, which is similar, but only has LaserJet II emulation and costing about £80 less. Both come with one Megabyte of memory and can print six pages per minute.

SKIMPY

The printer is shallower than some, but a rather flimsy paper tray which sticks out at the back adds another seven inches. The paper feed cassette only holds 100 sheets, but you can get a second multi-media feeder with a bigger capacity and use them together. This extra feeder fits into a slot normally used by the single sheet by-pass, which will also take envelopes.

The toner and photoconductor drum are separate as on most of the machines. This means you have two things to fit but may make it cheaper to run than a printer like the LaserJet in which they are combined in one unit - drum life is about six times that of the toner cartridge. The standard interfaces are parallel and serial and you can get various others including LocalTalk for connecting to an Apple Mac.

PERFECT PRINT

Print quality is superb. The machine has its own version of RET known as RITech and prints as well as the HP machine. There is a generous supply of internal fonts: Courier, Line Printer, Times, Sans serif and Dingbats in a variety of styles, and the last three are scalable from four to 999 points.

If that isn't enough for you, there's a slot for Epson font cards and another which will take any of the large selection of HP cartridges. Another fairly expensive optional extra is a PostScript card at £499.

This is a very good machine which is full of features. It's fast when printing text, but oddly slow when printing from ***Calamus***.

"Easy to use, lots of features, very good print"

NAME: EPSON EPL-4300
COMPANY: EPSON (UK) LTD
CONTACT: 0422 61144

PRICE: £999, 1 MB
Extra memory £100,
Toner cartridge (5,000 pages) £67,
Photoconductor unit (30,000 pages) £93,
Multimedia sheet feeder £129

DESIGN	●●●●○
EASE OF USE	●●●●○
PRINT QUALITY	●●●●○
SPEED	●●●●○
FEATURES	●●●●○
INSTRUCTIONS	●●●●○
VALUE FOR MONEY	●●●●○

OVERALL 80%

RICOH LP1200

The Ricoh LP1200 – print quality, features, value, are all here.

This is yet another new machine and is being distributed by Silica Systems who have had a connection with Atari for many years

In appearance this is very much like the Epson and the only really noticeable difference is in the control panel – the Epson's looks better, whilst the Ricoh's is nicer to use. Inside, both use the same (Ricoh) printing mechanism rated at six pages per minute, but the controlling electronics are different with the result that the Ricoh is significantly faster, especially for graphics or DTP printing.

FEATURES

There are several unusual features here, some of which are good, while others are of dubious value. This is one of the few printers on the market that can produce more than 300dpi. In fact, you have a choice of several resolutions up to 400dpi and printouts supplied by SDL were visibly superior to normal laser hard copy – at the moment there aren't the drivers for ST software to exploit this advantage, but there will be soon. Less valuable is that Ricoh seem to have re-invented the wheel by producing their own control language known as Layout: the manual describes this in rather sketchy fashion, and the advantages of yet another printer language were lost on me.

FONT CHOICE

The LP1200 is an LJIII compatible and comes with Courier, Line Printer, Prestige and Gothic fixed size fonts and scalable Times and Univers. Print quality is very high and there is resolution enhancement known by the ungainly acronym of FIAL (Fine Imaging Algorithm).

You get very good value here, especially as you won't need to buy extra memory. The only disadvantages compared to the Epson are that you can't use HP font cartridges and there is no PostScript option.

"A winner, prints very well, good value"

NAME: RICOH LP 1200
COMPANY: SILICA SYSTEMS
CONTACT: 081 309 1111

PRICE: £1,199
2MB extra memory £230, Toner cartridge (5,000 pages) £65 Drum unit (30,000) pages) £93, Sheet feeder £135

DESIGN	●●●●○
EASE OF USE	●●●●○
PRINT QUALITY	●●●●●
SPEED	●●●●●
FEATURES	●●●●●
INSTRUCTIONS	●●●○○
VALUE FOR MONEY	●●●●●

OVERALL 88%

OKILASER 400

The Oki OL400 LED machine – rock bottom in price but not in quality.

The two most outstanding things about this machine are its price (the cheapest page printer on the market) and the fact that in spite of its name it is not a laser printer!

Instead of using a scanning laser beam to put the electrostatic page image on to the drum, the Okilaser uses an LED strip.

This reduces the number of moving parts and may go some way to explaining why it is relatively cheap.

LOW COST

Cheap doesn't in this case mean poor quality, however: both the construction of the machine and the quality of its print are very good. Because of its low cost it only has one interface, so you have to choose whether you want parallel or serial connection when you buy it.

You also need to specify the amount of memory that is required, as increasing the memory later will simply result in another trip to your dealer.

The OL400 is LaserJet II compatible and its internal fonts are Courier, Line Printer, Times and Helvetica. Several font cards are available for the machine, and these have the same fonts as some of HP's cartridges.

CHOICES

This is a low, square machine with two paper exit paths, either onto the top or straight through onto a folding-out tray situated at the back.

The loud internal fan makes this printer the noisiest one of the group, and on top of that it's also one of the slowest.

In fact, both the OL400 and Panasonic are slower at printing complicated pages from ***Calamus*** than Hewlett-Packard's DeskJet 500 inkjet.

If you want laser quality at the minimum price, rather than the latest and fastest then you can't go wrong with this machine.

"Cheap and straightforward, prints well"

NAME: OKI OL 400
COMPANY: OKI SYSTEMS (UK) LTD
CONTACT: 0753 531292

PRICE: £899, 1 MB extra memory £200, Toner cartridge £19, Drum unit £175, Second paper bin £390

DESIGN	●●●●○
EASE OF USE	●●●●○
PRINT QUALITY	●●●○○
SPEED	●●●●○
FEATURES	●●●●○
INSTRUCTIONS	●●●●○
VALUE FOR MONEY	●●●●○

OVERALL 77%

PANASONIC KX-P4410

Panasonic's well-built budget printer, the KX-P4410.

Panasonic is bringing out several new lasers this year and the KX-P4410 is its budget model

This is a LaserJet II compatible 5ppm machine. It doesn't break any new technological ground, but there is nothing flimsy about it and it comes with a confident warranty. There is one slot for font cards (four available). The drum and toner units are separate but easy to install. 512K of memory is installed as standard, but extra Megabytes can be added up to a maximum of 4.5 MB.

PAPER CURLS

The paper cassette has a decent capacity and there are two paper paths out of the machine: either straight out of the back and landing face up on a catcher, or on to the top when it ends up face down. The straighter path is recommended for heavier paper. You can get a second cassette which fits under the machine.

The control panel is bigger than most, with large buttons and the usual LCD display – it's quite simple to use and you probably won't need to change the default settings. The internal fan is noisier than some, but printing itself is very quiet.

The fonts are a variety of styles of Courier and Century – adequate but not exciting. Print quality is very good – it takes a magnifying lens to see that characters are very slightly rougher than those from machines with resolution enhancement.

This is a very good basic printer. It doesn't have the sophistication of some of the others but you probably won't use their innumerable fonts anyway. Compared to other more sophisticated models, and the Okilaser which has similar features, it seems over-priced and can't at the moment be considered very good value.

"Simple, easy to use, a bit expensive for what it offers"

NAME: PANASONIC KX-P4410
COMPANY: PANASONIC BUSINESS SYSTEMS
CONTACT: 0344 853943

PRICE: £845
1MB extra memory £185, Toner cartridge £29, Drum unit £95
Second cassette (200 sheets) £140

DESIGN	●●●●○
EASE OF USE	●●●●○
PRINT QUALITY	●●●○○
SPEED	●●●○○
FEATURES	●●●○○
INSTRUCTIONS	●●●●○
VALUE FOR MONEY	●●●○○

OVERALL 69%

HEWLETT-PACKARD LASERJET IIIP

No one would regret buying a LaserJet IIIP, but it's relatively expensive.

This printer from Hewlett Packard is well-designed but slightly overpriced

The IIIP has been around for over a year now, and until recently was the cheapest in HP's range of laser printers. A couple of months ago they re-introduced the model it had superseded – the IIP – as their budget model, calling it the IIP+. Both are four pages per minute printers and look very similar, but the IIIP has superior print quality and costs about £150 more.

GOOD LOOKING

This machine is well designed and quiet when printing. There is one expansion slot for font cartridges or a PostScript cartridge. Extra memory may be needed as it is sold with only one Megabyte; this is easy to come by and fairly cheap if you buy from a third party manufacturer. The Canon print engine has drum and toner combined in one unit which is quite convenient.

You load paper into a flap-down tray rather than a cassette which only takes 70 sheets – this makes the printer very compact when the flap is closed but isn't very convenient in use.

There is also an optional 250 sheet cassette which fits under the printer. Paper exits to lie loose on top of the printer ready to be blown away by any passing breeze, or on to a similarly exposed tray at the front.

The internal fonts are Courier and Line Printer in fixed sizes, plus scalable Times and Helvetica. One of the problems with LJIII type scalable fonts is finding a word processor that uses them: ***Protext***, ***That's Write***, and ***WordPerfect*** can, but you are only offered a few sizes in each case. Print quality as you might expect is superb.

HP machines don't come cheap, and this one is no exception. The IIIP is very likeable and reasonably fast, but can't score highly against the likes of the Ricoh which offers more for the same money.

"Quiet, prints well, poor paper tray, expensive"

NAME: HEWLETT PACKARD IIIP
COMPANY: HEWLETT PACKARD
CONTACT: 0344 369369

PRICE: £1,179
1MB Extra memory £162, Drum/toner unit £64
250 sheet lower cassette £133

DESIGN	●●●●○
EASE OF USE	●●●●○
PRINT QUALITY	●●●●○
SPEED	●●●●○
FEATURES	●●●●○
INSTRUCTIONS	●●●●○
VALUE FOR MONEY	●●●○○

OVERALL 77%

STAR LP4 III

Star's LP4 III LaserJet compatible, and a LaserJet beater.

Star is perhaps best known for its excellent dot matrix printers, but it offers a good range of lasers too

The LP4 III is Star's recent low-cost LaserJet III compatible and, like the LaserJet, uses a Canon print engine. The similarity to the HP IIIP doesn't end there: the external casing is basically the same, although the Star has its control panel down the side rather than across the end.

Although, like the IIIP, this printer is a four page per minute machine, its internal electronics contain a speedy RISC processor which makes data handling and printing of complex pages somewhat faster.

Paper arrangements are very similar the IIIP's, with an open tray, and paper exiting either on top or out of the front. You can get a 250 sheet cassette to fit under the machine.

FONT SELECTION

As a PCL5 machine it has scalable fonts (Times and Univers) as well as the usual selection of Courier and Line printer fixed size faces. You get excellent printing, and resolution enhancement should improve it further, though for some reason this is only available if you have extra memory installed. There's a slot for font cartridges and you can use Star's own or those for the LaserJet III.

PLUS POINTS

The LP4 III is another likeable machine, and is quiet and simple to operate. It is in direct competition with the HP, Epson, and Ricoh machines.

It's faster and cheaper than the LaserJet, more expensive and slower at text printing than the Epson (though faster with graphics), and, like the others, eclipsed by the Ricoh's speed and value.

"High quality print, fairly fast, good value"

NAME: STAR LP4 III
COMPANY: STAR MICRONICS (UK) LTD
CONTACT: 494 471111

PRICE: £1,049, 1 mb extra memory £149 Toner/drum unit (3,500 pages) £79, Paper feeder (250 sheets)£129

DESIGN	✪✪✪✪✪
EASE OF USE	✪✪✪✪✪
PRINT QUALITY	✪✪✪✪✪
SPEED	✪✪✪✪✪
FEATURES	✪✪✪✪✪
INSTRUCTIONS	✪✪✪✪✪
VALUE FOR MONEY	✪✪✪✪✪

OVERALL 80%

BUYERS GUIDE

PRINTER	ATARI SLM605	EPSON EPL-4300	HP LASERJET IIIP	OKI OL400	PANASONIC KX-P4410	RICOH LP1200	STAR LP4 III
RRP ex VAT	£699	£999	£1,179	£899	£845	£1,199	£1,049
Street price inc VAT	£821	£739	£821	£527	£657	£821	£762
Size in CM (h,w,d)	21, 41, 39	17.7, 47.9, 26.2	20.4, 35, 40.5	13, 45, 45	23.6, 37, 39.4	17.7, 46.7, 26.2	21.5, 38.7, 41.6
Weight (kg)	16	13	10	11	14	12.5	10
Warranty[1]	1yr RTD	1yr OS	1yr OS	1yr OS	2yr OS	1yr OS	1yr OS
Memory	1Mb	1Mb	512K	512K	2Mb	1Mb	
Extra 1 Mb	£100	£162	£200	£185	£230 (2Mb)	£149	
Emulation[2]	D, EPX	EPL, EPX, EPQ, LJIII, PS*	EPX*, LJIII, PS*	D, I, LJII	EPX, I, LJII	EPX, I, LJIII, LY	HPIII
Interfaces[3]	DMA	S, P, L*	S, P, L*	P or S	P	P, S	P, S
Speed rating	6ppm	6ppm	4ppm	4ppm	5ppm	6ppm	4ppm
Noise level	52dBA	<50dBA	43dBA			48dBA	
Typefaces	26	14	25	14	22	15	
Scalable	13	8	no	no	8	8	
Resolution(dpi)	300	300	300	300	300	300/400	300
Resoln Enhance	yes	yes	no	no	yes	yes	
Paper capacity	150	100	70	200	200	100	70
A4 text page	27"	20"	38"	32"	30"	18"	36"
Second copy	11"	10"	15"	12"	10"	10"	15"
DTP page	33"	1'17"	58"	2'02"	1'58"	43"	51"

[1]Warranty: RTD=return to dealer, OS=on site [2]Emulation modes: D=Diablo, EPL=Epson Laser, EPX=Epson 9 pin, EPQ=Epson 24pin, I=IBM Proprinter, LJII=HP Laserjet II, LJIII=HP Laserjet III, L=Layout, PS=Postscript [3]Interfaces: S=Serial, P=Parallel, L=Localtalk

WIN A RICOH

GET YOUR ST PLUGGED INTO THE BEST VALU

Silica Systems are rightly proud of the Ricoh laser printer. So much so that when they discovered that in our group laser printer test, it had come out better than any of its competitors, they decided to show their appreciation by offering one of the machines as a competition for ST Review readers...

The Ricoh LP1200 laser printer represents the very latest in mass market publishing technology and combines a high specification with an incredibly good price the best price that we know of is from Silica Systems themselves who offer the Ricoh complete for only £821.33 including VAT.

But they want nothing for this particular printer. It will be given away completely free to the lucky person who has correctly answered three questions and had their name pulled out of the ST Review hat on the 14th October.

So it's hats off to Silica Systems and thinking caps on for all of you as you each work out just what you could do if you had such an amazing machine plugged into the business end of your STs printer port.

Read the review on page 43, and then you'll have no doubts as to the benefits of the Ricoh and if you decide to enter the comp, just read the information below on how easy it is to enter and you're off! Good luck!

HOW TO WIN

All you have to do to win is to answer a few simple questions about the Ricoh Laser – simple because you should be able to get all the answers from our Laser Printer round up starting on page 41 of this issue. Then just call the phoneline number (right) and correctly answer the questions that you will hear. Once you've answered the questions correctly, you will be asked to leave your details for automatic entry in to the competition. It's that simple. The competition closes on 14th October.

WHAT YOU GET WITH THE RICOH

- Up to 400 dots per inch resolution (with driver software)
- Standard 2 Megabytes
- Laserjet III compatibility
- 6 ppm printing speed
- Resolution enhancement
- Flash ROM

Rules: This competition is only open to residents of mainland UK and no entries will be accepted from employees of either EMAP Images or Silica Systems. The Editor's decision is final and no correspondence will be entered into. Entry into the competition signifies acceptance of these rules.

ASER PRINTER!!

R MONEY LASER PRINTER IN TOWN!

ORTH
199!

COMPO PHONELINE

0839 500 815

Calls are charged at 36p per minute cheap rate and 48p at other times.

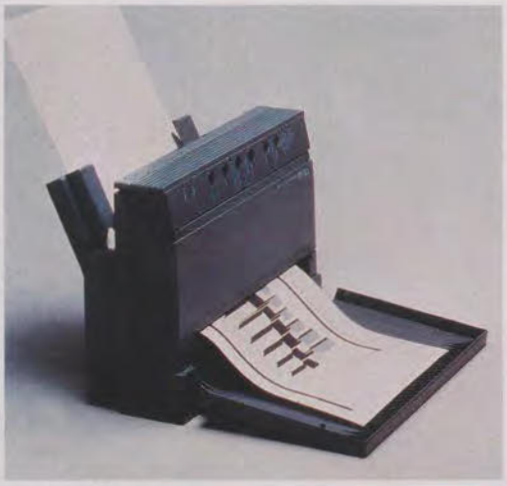
BUBBLING UNDER

Canon's latest bubblejet solves most of the problems that were encountered with the BJ-10. John Mallison fires a look at the BJ-20

With our ears still ringing from exposure to 18 dot matrix printers from issue 4, and our backs still aching from lugging their heavy boxes, what a pleasure it was to look at the BJ-20. Modest in size and weight, discreet in noise, superb in print, this is Canon's new alternative to their BJ-10ex bubblejet printer.

What is new here? Not the mechanism that still uses the same 64 nozzle inkjet head, printing at 360 dots per inch. Scarcely the case, which is identical, apart from different control panel buttons (six instead of five) and more indicator lights. It is the overall package which has been improved, both in what you get and in how easy it is to use.

If you have never seen a BJ-10, it is A4 in size and two inches thick. A lid opens back to act as a paper support for single sheets as they feed in and come out. Another shorter lid opens forwards to uncover the print head and to let you get at the dip switches. The control panel of buttons and indicators lies across the front, and on the right-hand side is the parallel interface socket and a socket for connecting to the external power supply.



Look closely and you'll see the differences from the BJ10ex.

TAKING A STAND

In use it either lies flat on the table or sits upended so you can feed thicker paper through a rear slot. It takes single sheets which load at the touch of a button, or you can purchase the optional cut sheet feeder which cleverly fits like a backpack onto the machine when it's standing upright .

Why this talk of the BJ-10 rather than the BJ-20? Because all of the above applies to both machines. There's very little at fault with the BJ-10, but the control panel is a little confusing – it has too many functions divided between too few buttons, and too few lights to show what settings have been made. A faster printing mode would have been an advantage: the BJ-10 has High Quality and Economy modes, but Economy just saves on ink. An easier way of changing between its emulations would have made life more bearable too. The BJ has two emulation modes, Bubblejet, which is superb for printing graphics, and Epson LQ which is more versatile for printing text. On the BJ-10ex you can only swap between them by turning off the machine, flicking a dip switch and then turning on again, all of which is very inconvenient.

SIGNIFICANT IMPROVEMENTS

With the BJ-20 Canon seems to have addressed all these criticisms. The control panel is better laid out and more clearly labelled.

Canon BJ-20, Epson LQ m
Draft mode abcdefg
Roman abcdefg
Sans Serif abcdefg
Courier abcdefg
Prestige abcdefg
Script abcdefg
ORATOR ABCDEFG
Orator-S abcdefg
Italic, **bold**, underline
Outlined
Shadowed

The BJ-20 features a generous range of good-looking typefaces.

The new high-speed printing mode is about 15 per cent faster and saves ink as well. Although the default emulation is still set by using dip switches, you can now swap between Epson LQ and Bubblejet modes from the control panel, and in LQ mode you have seven NLQ fonts instead of the 10ex's four. You can pick your font from the control panel by pressing a button; there are lights against their names, and as you cycle through them the machine plays a scale of B flat. In BJ mode you still only get Courier.

With the BJ-20 the sheet feeder is no longer an extra, and is slightly bigger and sturdier, holding 50 sheets to the BJ-10's 30. Canon seems to have included the feeder because they want to establish the BJ-20 more firmly as a desktop machine rather than just a portable. At £399 it is still £100 cheaper than HP's DeskJet 500 and Canon's own BJ-300, which are (arguably) the best of the desktop inkjets. However, both of those are heavily discounted, and in practice they sell for about £290. The BJ-20 will be relatively more expensive for the time being – you can expect to pay about £265 excluding VAT.

Print quality is identical on the BJ-10 and 20. The list price of the BJ-10ex has now fallen to £299 from £345 and its sheet feeder costs £54 – together they cost £46 less than the BJ-20, although it is worth paying the extra for a wider range of typefaces, better controls, speedier printing and a bigger feeder. On the other hand, no-one in their right mind will ditch their BJ-10 to upgrade to the 20: they just aren't different enough.

FEATURES

- 360 dpi thermal inkjet printer, very quiet
- External power supply or internal batteries
- Single sheets or sheet feeder
- Seven letter-quality typefaces + draft printing
- Print speed: 83cps, or 110cps in draft mode

PROS AND CONS

Neat and portable
Good range of typefaces
High print quality

Relatively slow
Costs little less than the faster HP DeskJet or Canon BJ-300

"An improvement on the BJ-10, but not really enough for the price"

NAME: CANON BJ-20
COMPANY: CANON UK LTD
CONTACT: 081 773 3173

PRICE: £399
INK CARTRIDGE £17.99
BATTERY PACK £39.99
RELEASE DATE: NOW

DESIGN	●●●●●
CONSTRUCTION	●●●●○
EASE OF USE	●●●●●
PRINT QUALITY	●●●●●
SPEED	●●●○○
FEATURES	●●●●○
INSTRUCTIONS	●●●●○
VALUE FOR MONEY	●●●●○

OVERALL 85%

The 16 bit Breakthrough

At last from Microdeal, the first ever low cost 16 BIT sound sampler for the Atari ST range of computers. Never before has a 16 BIT sampler been available at such a low price. With the superb quality of 16 BIT technology, the completely new hardware cartridge contains 16 BIT Analog to Digital and Digital to Analog convertors. The system can record sound from suitable equipment such as a portable cassette or C.D player or any 'Auxiliary' or 'Line' level source. The PHONO output provides a standard 'Line' level output for connection to a wide range of sound systems.

As you have come to expect from MICRODEAL and Audio Visual Research, the SOFTWARE provided with the package is packed with the latest features. REPLAY 16 has the latest generation EDITOR, DRUMBEAT, MIDIPLAY software, which have been radically updated and rewritten from the REPLAY PRO / STEREO packages. Just look at these features;

REPLAY 16 EDITOR

The EDITOR program provides the user with the ultimate in power and sophistication, packed with features which appear for the first time on ANY home computer. The fully DESKTOP and WINDOW styled editor allows individual samples to be loaded into the computer and edited separately . The program will allow the user to load samples of 8 , 12 or 16 BIT format and freely convert between them. Sampling rates up to 48Khz can be used and the program can re-synthesise samples to practically any other speed.

The REPLAY 16 editor supports many useful editing functions including Cut, Paste, Overlay, Clear, Fill, Hide, Insert, Loop join, Loop, Loop cross-fade, Repeat gap, Volume up / down, Fade in / out, Reverse, Sample, Play, Pre-sample, Monitor, Scope, Load sample (AVR , 85VX / IFF and AIFF), and Save sample.

The Editor can also perform more advanced forms of editing such as Sample FOURIER analysis using a 128 point 3D FFT, Special effects (including Echo, Multi echo, Flange, Reverb, Room and Hall), Digital Filtering (Band pass, Low pass, High pass, Band stop, Frequency boost). In addition to all these functions the REPLAY 16 editor now comes complete with a SAMPLE TRACK SEQUENCER, which allows you to Rearrange / Remix samples using a SAMPLE list style editor.

DRUMBEAT 16

DRUMBEAT 16 is a simple to use, full feature Drum machine with one main advantage over a dedicated unit, it is a FULLY re-configurable SAMPLING drum machine. DRUMBEAT 16 can load up to 30 samples into memory, to create a KIT. Samples can be up to 1 Meg in length, permitting the user to record sections of music and completely RE-MIX them. Patterns of BEATS are arranged on a grid style PATTERN editor . SONGS are then constructed from simple lists of patterns. Up to four SAMPLES can be played simultaneously, which turn DRUMBEAT 16 into a powerful sample sequencer. DRUMBEAT 16 has full Midi support and can act as a MIDI SLAVE or MIDI MASTER and responds to MIDI START , STOP and SYNC commands.

MIDIPLAY 16

MIDIPLAY transforms your ST into a flexible Multivoice MIDI keyboard emulator . Samples can be assigned to any individual note or range of notes in a 9 octave range . MIDIPLAY 16 can play up to 4 VOICE / NOTE polyphonic with 3 levels of velocity sensitivity while in a single voice mode . An advanced sample loop point editor with AUTOLOOP (zero crossing) detection is also incorporated to ease loop point editing . Four separate keyboard layouts can be held in memory at any one time . MIDIPLAY 16 now has SWITCHABLE SOFTWARE FILTERING to reduce sample noise and improve sound quality.

FULLY COMPATIBLE WITH BREAKTHRU FROM GAJITS

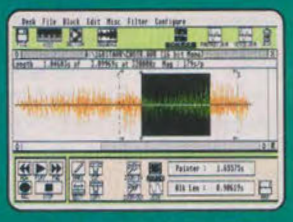
Not included with this package but fully compatible is BREAKTHRU , from Gajits , a professional quality 32 track midi sequencer with a difference . At the same time as it plays your midi instrument , BREAKTHRU will drive your REPLAY 16 cartridge to provide a four channel 16 Bit sample output ! BREAKTHRU offers all the editing and arranging facilities you need to produce great music , including Gajits DIAMOND DRAG editing system.

Sample Dump Feature

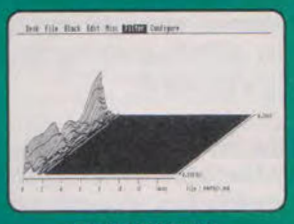
As if all this was not enough , Replay 16's sample EDITOR supports MIDI SAMPLE DUMP as defined in version 1.0 of the INTERNATIONAL MIDI SPECIFICATION . This very powerful feature allows users of many rack or keyboard mounted samplers to transfer samples between themselves and REPLAY 16 for more advanced and simpler editing . These samples can be tested within REPLAY 16 before sending them back to the remote unit.

microdeal

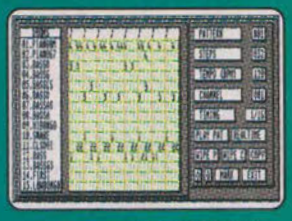
The 16 bit sampler for the Atari



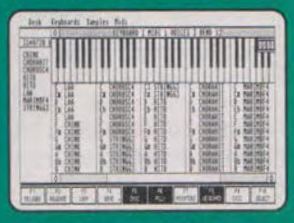
REPLAY 16 MAIN EDITOR



FFT 3D DISPLAY



DRUMBEAT SONG EDITOR



MIDIPLAY MAIN SCREEN

REPLAY 16 ORDER FORM

REPLAY 16..£129.95

Sequence 1. £129.95

TELEPHONE
0726 68020
WITH CREDIT CARD No

Name: . . . . . .
Address: . . . . . .
. . . . . .
. . . . . .
. . . . . .Postcode. . . . . .

CHEQUE/POSTAL ORDER ENCLOSED FOR £.....
CREDIT CARD No: . . . . . .
EXPIRY DATE: . . . . . .

Send to: Microdeal Ltd, PO BOX 68, St Austell , Cornwall. PL25 4YB

Choosing a memory upgrade for your Atari ST?

The XTRA-RAM *Deluxe* is the answer!

Is your ST always running out of memory? Marpet Developments' XTRA-RAM *Deluxe* is the easy to fit and simple to upgrade memory expansion that you've been waiting for. With over 5,000 satisfied customers throughout the world, why consider anything less than the best? Using industry standard SIMMs (like ST^{E}s) the XTRA-RAM *Deluxe* lets you upgrade all the way to 4Mb.

Installation of the XTRA-RAM *Deluxe* couldn't be easier. Following the instructions laid out in our simple to follow manual which is written with the non-technical reader in mind, you disassemble your STF; STFM or Mega ST, plug in the XTRA-RAM *Deluxe* into two places inside your computer and reassemble it. The whole process takes around one hour and most machines will not require any soldering whatsoever.

The XTRA-RAM *Deluxe* works with all Memory Management Unit (MMU) chip types, whether they are soldered down or socketed. If your ST has a soldered down Video Shifter chip or a 101601 type MMU chip then some soldering will be required.

Designed and manufactured here in the UK, each XTRA-RAM *Deluxe* upgrade is supplied with a full two year warranty together with a sophisticated RAM Testing program so that you know with certainty that your installation has worked. Full technical support is simply a telephone call or letter away, whether you live in England or Singapore.

Don't restrict your upgrade to just 1Mb. Make sure that you choose the XTRA-RAM *Deluxe* which can grow with your needs. Available today from stock at most leading Atari Dealers, or direct from Marpet Developments.

Here's what the leading Atari Magazines had to say about this top selling upgrade:

Atari ST Review: *"One of the best boards available for the ST."*

ST Format: *"The Xtra-RAM can be fitted easily ... even by a novice." 87%*

Deluxe with 0Mb	**£ 34.99**
Deluxe with $^1/_2$Mb	**£ 59.99**
Deluxe with 2Mb	**£ 99.99**
Deluxe with 4Mb	**£159.99**

Plus **£3** Postage & Packing per order

XTRA-RAM *Deluxe*

Searching for a reliable Clock Cartridge?

The Forget-Me-Clock II is the original and best!

With the Forget-Me-Clock II plugged into your ST or ST^E's cartridge port, the system clock (used by the Control Panel) and keyboard clock will automatically be set at turn on or reset. No longer will you have to waste time setting your ST's clock each day.

Why consider poor quality imitations of the original? The Forget-Me-Clock II remains the top selling clock cartridge - the user's choice! It features a full cartridge pass-thru enabling it to remain totally invisible so that another cartridge can be used as normal.

Installation couldn't be simpler - you just plug it in and turn on your ST. With a full two year warranty, including the long life lithium cell battery, why not join almost six thousand satisfied users?

Here's what some of the leading Atari Magazines had to say about this top selling clock cartridge:

Atari ST Review: *"A good, well engineered product. Get one now." 91%*

ST Format: *"The famous Forget-Me-Clock II Cartridge" 89%*

Forget-Me-Clock II Cartridge **£17.99**
Plus **£2** Postage & Packing per order

VISA & MASTERCARD Welcome

Buy the Xtra-RAM ST^E Memory Upgrade!

There are many suppliers of memory upgrades for ST^E machines. Not all cater for your particular needs. Most ST^{E}s require Single In-line Memory Modules, commonly referred to as SIMMs. However, a number of machines require SIPs - these are like SIMMs but use pins instead of an edge connector.

Each and every ST^E upgrade supplied by Marpet Developments contains all that is necessary to upgrade ST^{E}s requiring either SIMMs or SIPs. This is achieved through the use of a special adaptor. With the Marpet ST^E upgrade there is no risk of buying the wrong kit!

The Atari ST^E computer uses 256k SIMMs (or SIPs) at a speed of 150nano seconds; and 1Mb SIMMs (or SIPs) at a speed of 120nano seconds. Buying faster SIMMs or SIPs does not increase performance on your ST^E, but faster ones may be required if you later upgrade to a different computer system. Marpet always supply SIMMs rated at speeds in excess of the ST^E's requirements.

Each ST^E memory upgrade supplied by Marpet carries a full two year warranty. Here's what one of the leading Atari Magazines had to say about this top selling ST^E upgrade:

ST Format Rating: *"Easy to install." 86%*

XTRA-RAM ST^E $^1/_2$Mb Upgrade	**£ 24.99**
XTRA-RAM ST^E 2Mb Upgrade	**£ 69.99**
XTRA-RAM ST^E 4Mb Upgrade	**£129.99**

Plus **£2** Postage & Packing per order

Spare SIMM/SIP Adaptors **£1.25** Each
Plus **£1** Postage & Packing per order

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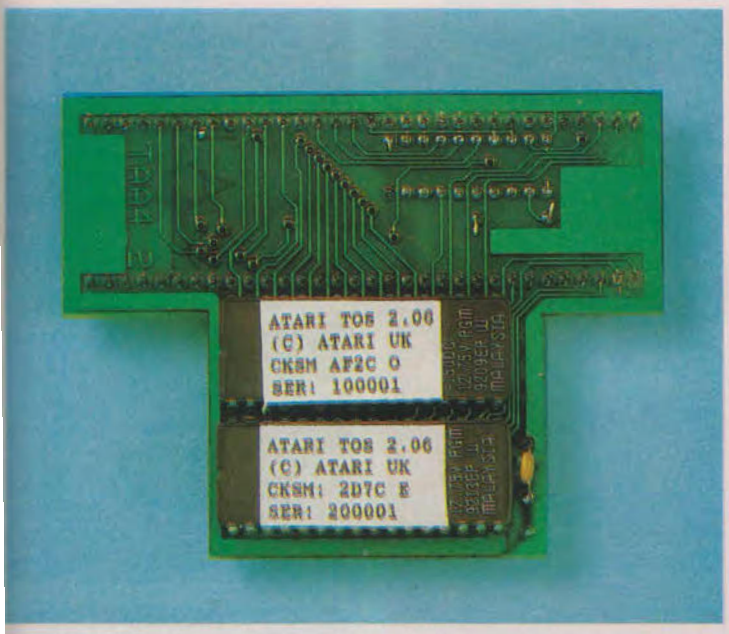
DEVELOPMENTS

Meadowfield Farm
Fellbeck
Pateley Bridge HG3 5ET
Tel: 44 (0) 423 712600
Fax: 44 (0) 423 712601

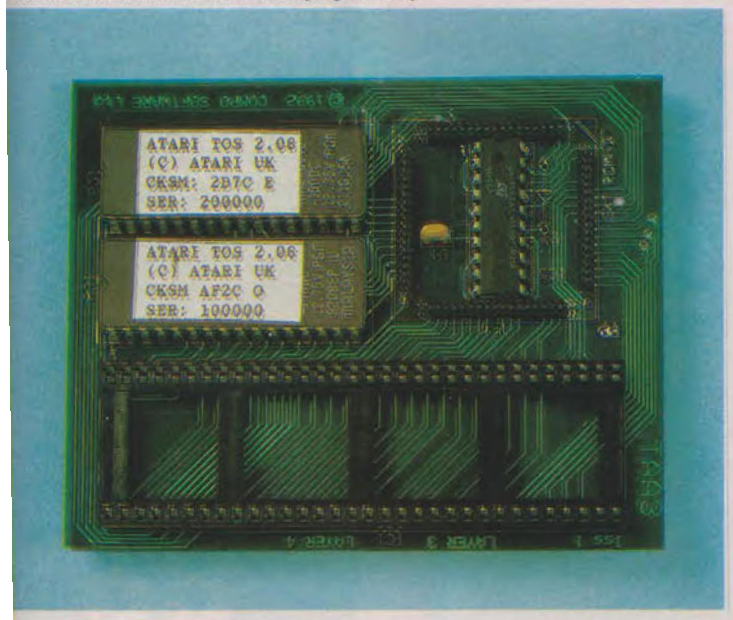
All prices subject to change with or without notice. **E&OE.** All goods subject to availability.

TOS 2.06: THE NEXT GENERATION

For the first time ever, Atari has approved an upgrade path for the ST's operating system. Tony Kaye takes a look at the new Tramiel Operating System (TOS)now available for the STFM and STE



The official TOS 2.06 upgrade for the STFM is soldered over the existing 68000 CPU and allows for additional boards to plug in on top.



The STE has a square 68000, so a different board is required. Note the ability to add STFM standard extra boards.

Let's face it, whatever version of TOS you run, it has its limitations, doesn't it? Whether it's the early TOS 1.0 or 1.62 in the latest STE, there are things you'd like to see improved. Simple everyday tasks like file copying, for example, can be a nightmare with TOS 1.0 and a single disk drive. The amount of disk swapping is enough to drive you insane. TOS 2.06 goes some way to answering the critics.

SOMETHING DIFFERENT

Anyone who has used a Mega STE will already know the advantages of the new operating system, and anyone using a hard disk drive will know the limitations of the current desktop. If you've used ***Neodesk*** or any of the public domain replacement desktops currently available, you'll have an idea of what Atari's TOS is capable of, but these use up precious memory, and of course, it would be better to have these facilities there when you buy your machine.

Well, now you can. For the first time ever, Atari has recognised the need to offer the ST user an officially approved product that will put the latest desktop on even the oldest machines, giving many advanced functions.

WHAT DOES IT DO?

TOS 2.06 has many features that make it superior to the earlier desktops. It manages to incorporate some of their better features and wrap them up in a package that makes the whole thing more user friendly.

The first improvement that you will notice with this latest upgrade is the new icons. They are configurable and, for the first time, you can distinguish between your floppy and hard drives. We have compared the new operating system with TOS 1.0. If you are running a machine with a more recent version of TOS, you will find that some of the changes have been incorporated in earlier versions – as is the case with the improved file selector, for example.

Run the mouse along the menu bar – under the file option, you'll find that there is enough space for the menu to read "Show Information" instead of the previous "Show Info...". Much more friendly, don't you think? When using this command, the information is on screen immediately, so you don't have to read it from disk. This improves the speed of file copying and makes the option much more usable. As you look, you find that a lot of the commonly used items such as "Open" and "Show Information" have a keystroke alternative. A folder can be created by typing an F, for example. There are new options too, such as Select All Items, which can be a boon when copying files; Close Directory, so you can reverse one step at a time; and Bottom to Top, instantly bringing the bottom window to the top.

The formatting routines are improved, with the inclusion of a new dialogue box. Support is included for 1.44 Megabyte high-density floppies and a copying routine for disks is also found under this menu selection. File handling has been greatly improved from the early versions.

Anyone who has a hard drive will appreciate the improved file selector, an improvement found as early as TOS 1.4 and carried on to this latest incarnation.

NO SORT

The View selector has the usual Show as Icons or Text options,

again with a keystroke alternative. The four Sort options are there and TOS 2.06 includes a No Sort option, so now you can see what order items were placed on the disk: this is ideal for checking your AUTO folder. Another new feature is a curious choice labelled "Size to Fit". This will automatically move icons in a window to show the maximum number of icons.

OPTIONS

The last menu bar, Options, is where most of the changes appear to have taken place. Instead of the old Install Disk Drive, there is now an option called Install Icon, which you can use to change an existing icon, add a new drive, change a window icon, add a trash can or printer, or simply change the name of an icon.

Other options include installing a device, changing the launch preferences when you switch on the machine with a hard drive installed, changing the desktop background, blitter support and even read a new .INF file for a change of setup. The usual Set Preferences, Save Desktop and Print Screen options are there, some with added keystroke options.

The Launch Application option is worthy of note to TOS 1.0 owners. Now, instead of using StartGEM or Headstart, just highlight the program you want to auto-boot, click on Install Application, change a few settings in the window, save the desktop and voila! The application will auto load. By activating a program with this option, you can also set up the opening of a program when an associated file is opened. For example, ***First Word Plus*** can be started when you click on a .Doc file.

The Install Devices option is a useful addition. Clicking on this option will cause the operating system to search for all connected peripherals and place the icons on the desktop automatically where applicable.

MAJOR IMPROVEMENT

The major difference between this and other versions of TOS is the ability to drag items on to the desktop for future use. Users of third party desktops will be familiar with this action, but, for the first time, it's available from the operating system. As you can see from the pictures, you can change the icons as well as the background, but don't expect it to be quite as flexible as ***Neodesk***.

The overall benefits of the new TOS make it worthwhile taking the time and trouble to fit. It is significantly different from the earlier versions, in fact, the earlier your ST, the more you'll benefit from the new chips. Of course, the background routines like file handling have been improved too.

The cost of the upgrade is £69.99 for either version, and the first boards were being shipped at the time of writing. By the time you read this, you should have no problems in obtaining the new TOS from most dealers.

FURTHER INFORMATION

For more details on TOS 2.06, contact the companies listed below:

Compo Software Ltd: 0480 891819.

Gasteiner Technologies Ltd: 081 365 1151.

Analogic Computers (UK) Ltd: 081 546 9575

THE ALTERNATIVES

There are other methods of adding TOS 2.06 to your ST. If you have an STE, you can swop the old ROM chips for the new 2.06 ones. This is the cheapest way to upgrade your version of TOS, but you can lose compatibility with some programs. The chips are available from Gasteiner or Analogic at around £39.99 and the official chips from Compo at £49.99.

There are two other boards available to add TOS 2.06 to the STFM. The Gasteiner version is for the STFM only, whereas the Analogic board will fit the STE and allow switching between the old TOS and the new. Prices are £49.95 and £59.95 respectively.

Left: Analogic Bitz board to add the new TOS to STFM or STE

Below left: ATIN from Gasteiner, for STFM only.

Below right: The ATIN chips only upgrade for the STE.

Ability to drag items to the desk top
Keyboard short cuts
Improved file handling
Officially approved by Atari
Switchable to previous TOS

PROS AND CONS

Awkward to fit initially
Manual switching on the STE
Limited icons
No icon editor

"Not quite Neodesk, but a vast improvement on the earlier TOS versions"

NAME: TOS 2.06
COMPANY: COMPO
CONTACT: 0480 891819
PRICE: £69.99

DESIGN	○○○○○
DOCUMENTATION	○○○○✪
FEATURES	○○○○○
EASE OF USE	○○○○○
VALUE FOR MONEY	○○○○○

OVERALL 86%

FITTING THE UPGRADE

There are two upgrades available, one for the STFM and one for the STE. The reason for the difference is that the newer machines use a different shaped 68000 processor chip (square as opposed to the oblong chip in the earlier models).

The adaptor board used has the advantage of making the STE compatible with emulators and accelerators designed for the STFM range. It does this by providing a standard oblong mounting as fitted to these machines. The STFM model also includes the facility to fit emulators and accelerators, simply by plugging them in to the new TOS board.

STFM

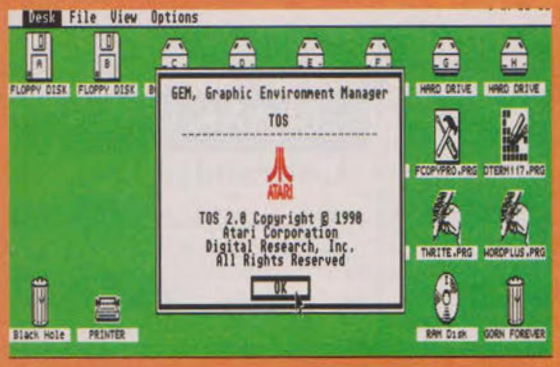
Fitting on this machine involves a small amount of soldering skill. The TOS 2.06 board is soldered to the top of the 68000 CPU inside the ST.

If you find this a daunting prospect, the major suppliers should be happy to fit the upgrade for a small fee. To switch to the new TOS, all you need to do is run a small AUTO program and the new operating system will run instead of the grotty old one. The default setting is the old TOS, so you keep full compatibility with all of your existing software.

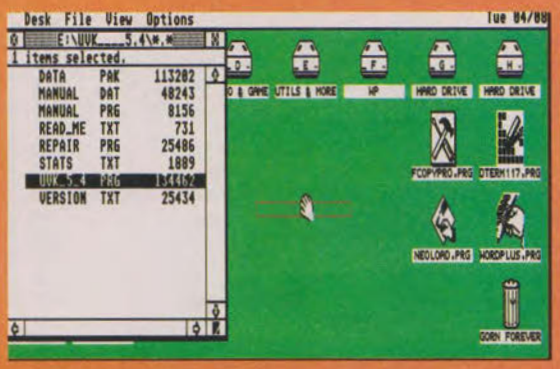
STE

No soldering, but a slightly different technique is needed to fit a board to the STE. The board slots in over the top of the square 68000 chip, but it has to be switched by hardware. It will not allow the software switch as in the FM machines.

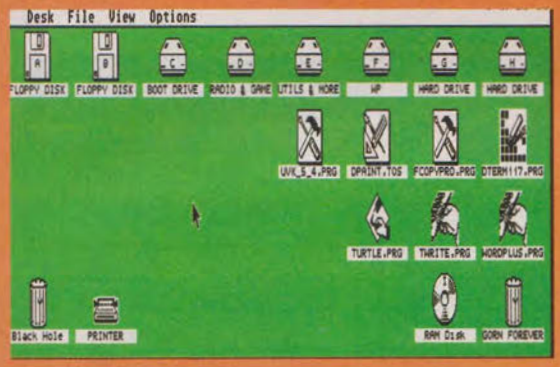
You therefore have to run a couple of leads and a switch to the side of the case, drilling a hole to mount the switch. The easy way to install the upgrade is to replace the old TOS 1.6x ROMs with the new 2.06, but you will lose a small amount of compatibility with some software if you cannot switch between the two.



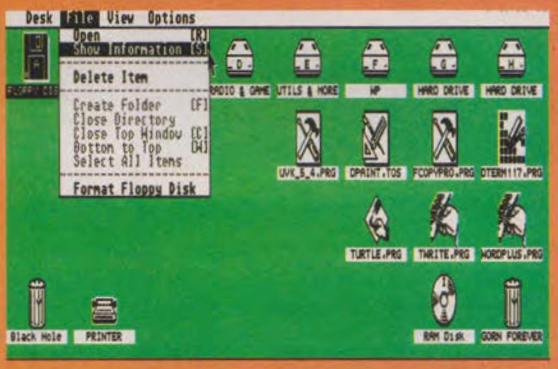
The new desktop. A familiar feel, but also very different.



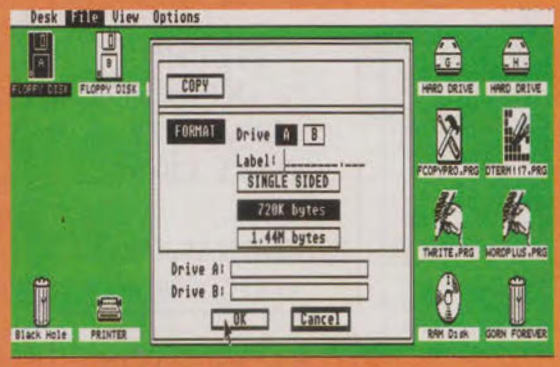
Dragging a program to the desktop for later use. Your own customised desktop can be called up when you boot up by using the Save Desktop option.



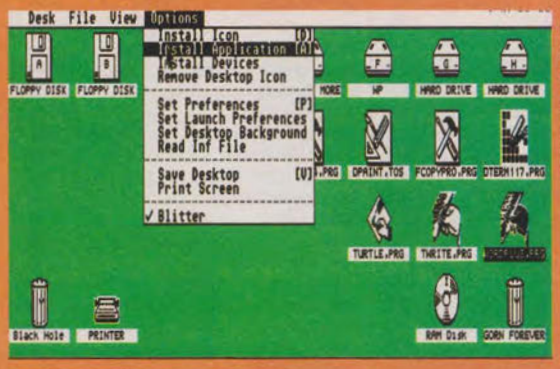
The finished desktop. Saved to disk, this will be the standard screen now greeting the user.



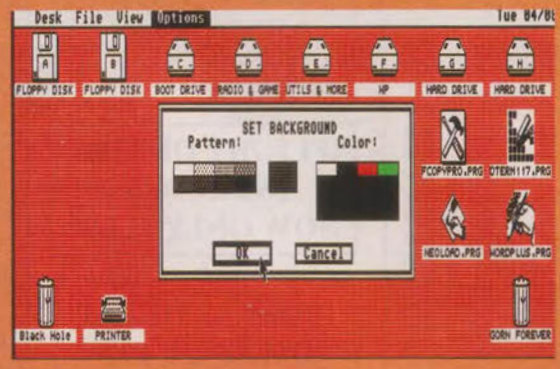
Show Information. Note the larger, clearer box and the keystroke options.



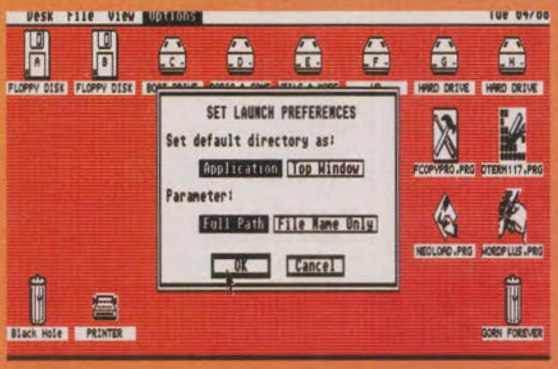
Choose a format. TOS 2.06 will support 1.44 Mb drives too. Click on Copy for floppy disk copying.



First Word Plus as an application. Note the new options including a switch for the Blitter Chip.



Change the colour and the desktop pattern here. No need to have a control panel just for this any more.



Use this option to set up your launch parameters.

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ON FILE

Databases come under scrutiny this month as Andrew Wright puts the top six to the test

Do you ever wish that you were better organised? It's certainly a skill that those people who are recognised as dynamic and ambitious seem to have – being able to have facts and figures at your fingertips is certainly a real boon in business and for every successful business, you will find that there is a powerful database keeping track of sales, customers and even stock.

But it isn't just big business that can benefit. Top DJs use databases to store not only information on their record or CD collections, but also to store associated information on their performance and the average home user can now find many more uses than just keeping a list of telephone numbers.

There are alternatives to databases for this type of light use – for example, there are plenty of address book programs that are pre-configured for accepting standard names and addresses. Some can even be accessed as desk accessories while running a word processor, which is a handy advantage. They don't tend to be as flexible, however, and if your needs ever change, the chances are that all the data will stuck in the wrong format. Most full-blown databases (except ***DGBase***, it seems) will happily import data in the form of an ASCII file with the fields delimited by an unused character.

If you're in the running for a means of filing information for later use and comparison, it pays to choose the right database the first time round.

Each of the six commercial database packages that are currently available on the ST have their strengths and weaknesses, so the choice will depend entirely on budget and the use to which it will be put.

EVERYTHING'S RELATIVE

There are essentially two types of database – the relational database and the flat-file or hierarchical database. But which sort do you need to get?

Imagine a business that alphabetically stores names and addresses in a card index and invoices in a drawer filed by number. Both can be thought of as manual flat file database files. Now imagine retrieving the details of an individual customer – it's dead easy, just pull out the card with the right name on it. But now try and find the invoices relating to that customer and you'll have a real job on your hands.

Computerising the system would make it faster, but to instantly display a customer's name and address along with all related invoices from another database file, a relational database program is the only answer.

A relational database can open several files at once and "relate" information from one file to information in another, without much input from the user. On the other hand, it's a feature that the average database user may never need – the choice is yours.

ADIMENS

HiSoft's top end database gives Superbase some strong competition

Adimens is a relational database from Germany which has a very well-designed graphical user interface. The program comes on a single disk with a good-sized manual, although the translation is a little awkward and even the program itself shows its foreign origin in places.

Adimens actually consists of two separate programs, one of which is for database design while the other is for use.

Designing a simple database is easy, but using the program's powerful relational functions certainly isn't. However, once the basics have been mastered, it is a very powerful program indeed.

A database is created by double clicking on the file icon in the parts box window and choosing a name. A second icon is subsequently created in another GEM window and double clicking on this results in a blank form.

Fields, called variables, are added from the parts box by dragging them across and placing them in the desired position.

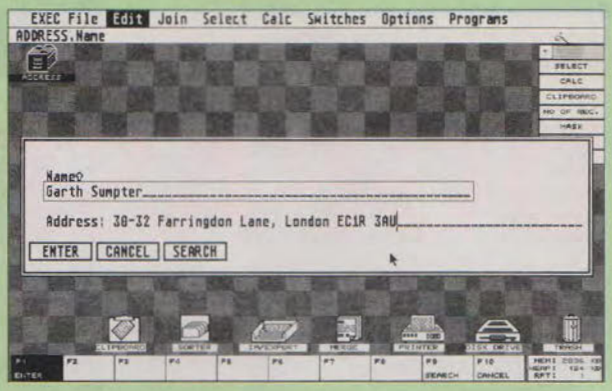
DIALOGUE BOX

Once the database has been designed the definition is stored on disk and then a second program is loaded which you use to enter the data. This is achieved by using a large dialogue box to enter data into each field in turn. All the database features are available from the main program and there are plenty of icons and menus available to speed up access.

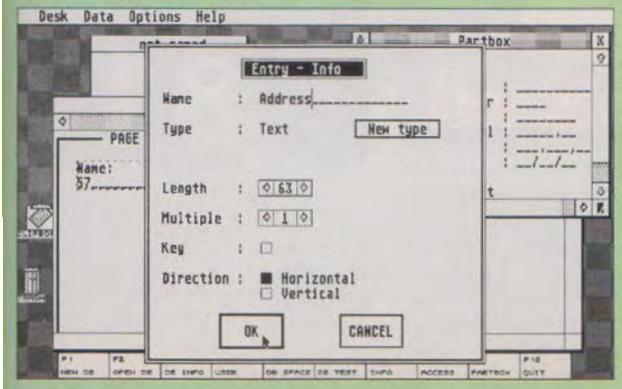
Adimens has facilities for calling up other programs from within itself and an excellent range of import facilities which are useful for transferring data to or from PCs. It can import ASCII, ***Lotus*** and ***dBase*** files and text files in ***Word***, ***Wordstar*** and ***Word Perfect*** format.

LIMITATIONS

The database is limited to a maximum of 16 Megabytes which can contain up to 32 different files and up to 65,535 records, but ***Adimens*** stores data in variable length records (it's the only ST database to do so) which should ensure that a 16 Megabyte file holds plenty of data. Printer support is limited to the standard ASCII/Epson driver which is a little disappointing.



Entering data into the Adimens address database using onscreen forms.



Designing a simple address database in Adimens.

"Powerful with an easy to use interface"

NAME: ADIMENS
COMPANY: HISOFT
CONTACT: 0525 718181

PRICE: £136.30
RELEASE DATE: 0.5MB
MIN MEMORY : OUT NOW

EASE OF USE	✪✪✪✪✪
DOCUMENTATION	✪✪✪✪✪
EFFECTIVENESS	✪✪✪✪✪
VALUE FOR MONEY	✪✪✪✪✪

OVERALL 83%

DATA MANAGER PROFESSIONAL

An ideal budget buy – true power without the price

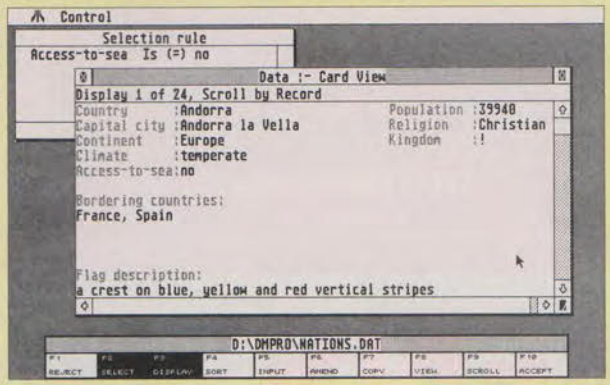
Data Manager Professional is the least expensive of the packages on review and uses the GEM interface. Rather than separate programs for design and use, it uses overlays for defining, maintaining and reporting. Running the main program reveals a six-option menu allowing you to choose which overlay to load, how to configure the system and whether or not to set the system date. Choose DEFINE to generate a blank form and place fields in position. The database is then saved to disk and data entered using the MAINTAIN overlay.

FEATURES

Data Manager's relational features are based on the ability to define a new file and include fields from various others. Other options include subtraction, joining and merging. The number of indexes is the only aspect of the program that is wanting.

Up to 32,000 records with up to 999 fields per record can be stored in a database. Text fields are limited to 65 characters, but there are block fields available which can store up to 1100 or more characters. There is a very useful statistical function which provides an instant report on any field – numeric fields can be summed and averaged as well as having minimum and maximum values displayed.

Data Manager is supplied on two disks and has an extensive and easy-to-follow manual. Equally extensive online help is available and reporting facilities are good. The low price and added value of the relational features makes it a very good buy.



Selecting records in Data Manager Professional.

"A tried and tested product which offers excellent value for money"

NAME: DATA MANAGER PROFESSIONAL
COMPANY: ELECTRIC DISTRIBUTION
CONTACT: 0480 496666

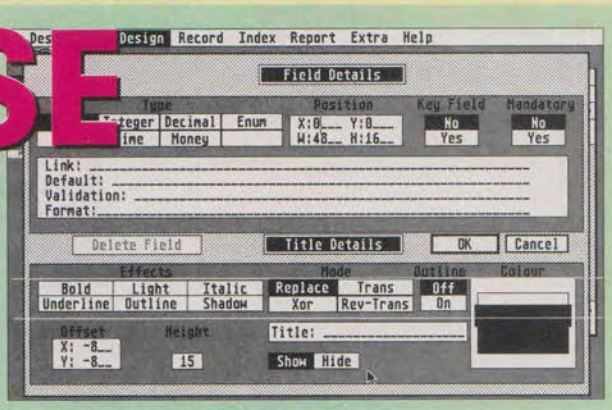
PRICE: £39.95
RELEASE DATE: OUT NOW
MIN MEMORY: 0.5 MB

EASE OF USE	✪✪✪✪✪
DOCUMENTATION	✪✪✪✪✪
EFFECTIVENESS	✪✪✪✪✪
VALUE FOR MONEY	✪✪✪✪✪

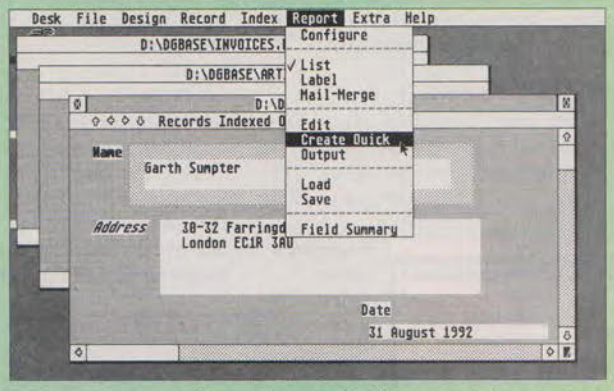
OVERALL 87%

DGBASE

Very fast flat-file database with some useful features



The field design dialogue in DGBase.



DGBase lets you open up to four databases at once.

Digita's ***DGBase***, comes on a single disk with a comprehensive 60-page manual. ***DGBase*** features a standard GEM interface with windows and drop-down menus with icons representing open databases. It consists of a single program for both design and construction, which makes it simpler to use than some competitors.

Designing a database with ***DGBase*** follows the customary procedure in that the database is named and a blank form displayed on screen.

Fields are created using a somewhat over-complicated dialogue box and once on the form they can be moved or resized at will. In addition, boxes, coloured areas and extra labels or text can be added as required.

EASY TO USE

The program is easy to use and learn and several documented example files are supplied. Reporting is perhaps the most difficult aspect with the user being required to enter raw control codes and rather obtuse commands for filtering and selection. Built-in facilities for mail merge and labelling are included but import facilities are dreadful – I couldn't import any of my existing files at all. There are links to other Digita programs such as ***DGCALC*** and ***Mailshot Plus***, however.

The program boasts a lightning search feature and complex searches are very fast. Although only a flat file database, up to four databases can be open at once which allows for flexible data retrieval and cross-referencing. Perhaps the most useful feature is the ability to edit and even add fields to a database at any time, even when it is being used – there is no need to resort to loading a separate design program.

"Simple flat file database that will suit most users' needs"

NAME: DGBASE
COMPANY: DIGITA INTERNATIONAL
CONTACT: 0395 270273

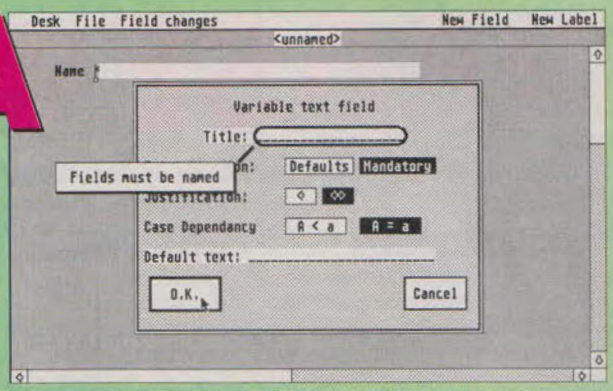
PRICE: £56.89
RELEASE DATE: OUT NOW
MIN MEMORY: 0.5 MB

EASE OF USE	✪✪✪✪✪
DOCUMENTATION	✪✪✪✪✪
EFFECTIVENESS	✪✪✪✪✪
VALUE FOR MONEY	✪✪✪✪✪

OVERALL 81%

K-DATA

This is a well-tried but somewhat over-priced database



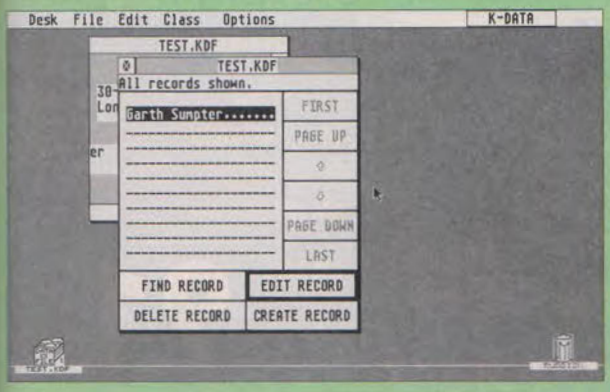
K-Data's novel error messages.

K-Data may have been around for a while, but it still has something to offer to most potential users. It has a relatively easy to use graphic interface that hasn't dated, and although it has undergone very little revision since it was first launched, it is quite a powerful tool with few restrictions on database size or format.

It isn't a relational database, however, and has few of the more powerful features that you will find in the opposition.

TWO PLUS TWO

K-Data is supplied on two disks and comes with a rather crudely printed 200-page manual. There are two versions of the main program, one for 520 owners and another for those with more memory, although their basic functions remain much the same.



K-Data's graphic interface makes it easy to use.

DOUBLE ACT

K-Data is another two-program effort with separate form designer and maintenance programs. The tried and tested method is used to create a database – fields are defined and pasted onto the blank form and then saved to disk. Loading the second program allows the data to be entered and manipulated. The forms designer and retrieval program both make good use of the standard GEM interface, including movable icons and windows.

Data can be exchanged with other Kuma programs including ***K-Spread*** and ***K-Graph***, which would make for a very powerful combination. An enhanced large-screen version is also available for those with a need for large onscreen forms and bigger monitors.

Printer support is rudimentary – if you have anything other than a standard Epson dot matrix, some work will be required.

"Good for large databases but loses out to newer competitors"

NAME: K-DATA
COMPANY: HISOFT
CONTACT: 0525 718181

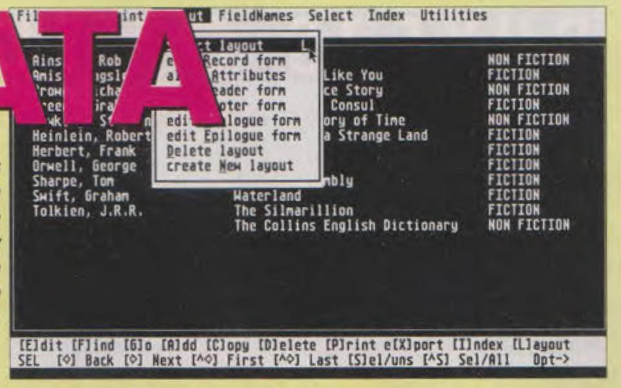
PRICE: £51.70
RELEASE DATE: OUT NOW
MIN MEMORY: 0.5 MB

EASE OF USE	✪✪✪✪✪
DOCUMENTATION	✪✪✪✪✪
EFFECTIVENESS	✪✪✪✪✪
VALUE FOR MONEY	✪✪✪✪✪

OVERALL 70%

PRODATA

This flat file database is very powerful, despite its unattractive interface

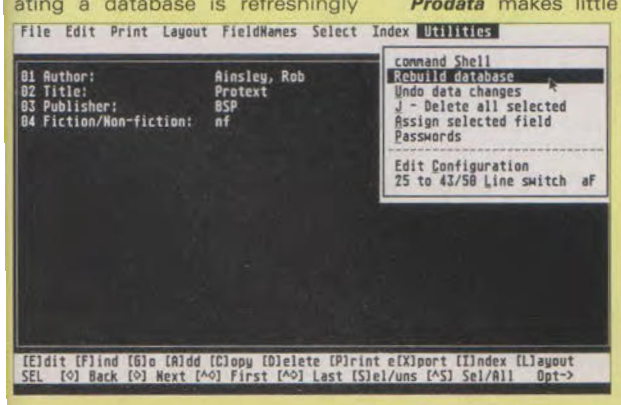


Prodata's simple interface makes it easy to use if a little unexciting.

Arnor's ***Prodata*** is relatively new and follows the same design as the powerful word processor, ***Protext***. It can be used alongside ***Protext*** as a powerful mailmerge tool or invoicing system or as a standalone package.

Only one program is required to design, edit and use a database which makes life pretty easy. Creating a database is refreshingly different with no need to specify the number of fields, type or length. Only the name of the database and the names of fields are entered and ***Prodata*** then generates a standard form or layout which can be edited and altered as required.

Prodata makes little use of the ST's graphic interface, save for providing a set of drop-down menus when the right mouse button is clicked or F3 is pressed. While this can make for rapid data retrieval, it isn't everyone's cup of tea. The lack of sparkle is made up for by the very comprehensive manual and the intelligently structured tutorials.



Prodata – the newest flat file database.

DRIVING AHEAD

Prodata is supplied with over 30 printer drivers including those for the Deskjet 500, HP Laserjet, Star LC10, LC24, LC200 and LC24-200, Qume, NEC and virtually all the Epson dot matrix printers.

If the right one isn't available, ***Protext*** drivers can be used, of which there are considerably more available. If you have a printer with proportional, internal fonts, ***Prodata*** can use them to print out reports.

Prodata is a professional user's tool, ideal for smart reports and mail merging. Its only real drawbacks are the price, which is relatively steep for a flat file database, and the less than inspiring interface.

"Boring interface but superb printer support"

NAME: PRODATA
COMPANY: ARNOR
CONTACT: 0733 68909

PRICE: £99.99
RELEASE DATE: OUT NOW
MIN MEMORY: 0.5 MB

EASE OF USE	✪✪✪✪✪
DOCUMENTATION	✪✪✪✪✪
EFFECTIVENESS	✪✪✪✪✪
VALUE FOR MONEY	✪✪✪✪✪

OVERALL 80%

SUPERBASE

ATARI ST REVIEW ESSENTIAL BUY

This database is powerful, flexible and easy to use – still the unbeaten champion

Superbase is undoubtedly the database that all the others have to beat, whether in the cut-down Personal version or the top end Professional version. ***Superbase*** is a fully relational database with the ability to incorporate graphics files as well as large text files. This makes it ideal for many professional business applications such as invoicing and stock control, as well as storing faxes, clip art and scanned images.

The user interface has the famous VCR-like set of control buttons along the bottom of the screen which makes browsing and moving through large files extremely easy.

It is a design that has found plenty of followers and there are compatible versions of ***Superbase*** available on other machines including the PC and Amiga.

The size of a ***Superbase*** database file is restricted only by available disk space and the ST's internal memory.

PROFESSIONAL USES

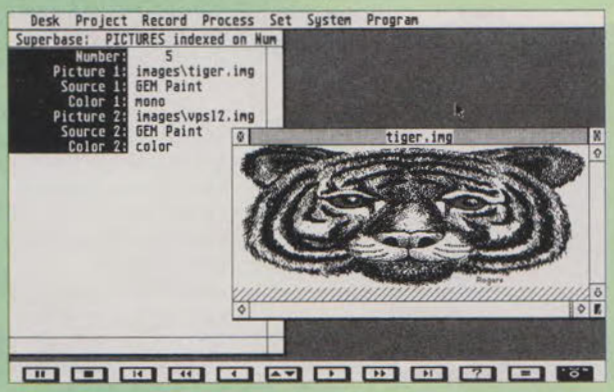
Superbase Professional features a powerful ***BASIC***-like programming language which allows complicated queries and reports to be set up quickly and easily.

With more experience, the language, ***DML***, allows users to reconstruct the GEM menus and dialogue boxes to suit themselves, creating a fully customised application.

It also has a built-in text editor to allow mail merge letters to be created and edited within the database and GDOS-based forms designer to produce WYSIWYG forms for screen and printer. ***Superbase Personal*** has no ***DML*** or forms designer but it does include the editor and offers fully-featured relational data storage at a very good price.

STAR OF THE SHOW

There have been very few databases released for the ST over the last few years and the blame can probably be laid fairly and squarely at the feet of ***Superbase*** – it is just so good that many other would-be developers are reluctant to compete.



Superbase Pro's Forms Designer.

"The database against which all others are judged"

NAME: SUPERBASE PROFESSIONAL/PERSONAL
COMPANY: OXXI
CONTACT: 0753 551888

PRICE: £255 (PROFESSIONAL) and £94 (PERSONAL)
RELEASE DATE: MARCH
MIN MEMORY: N/A

EASE OF USE	✪✪✪✪✪
DOCUMENTATION	✪✪✪✪✪
EFFECTIVENESS	✪✪✪✪✪
VALUE FOR MONEY	✪✪✪✪✪

OVERALL 91%

BUYERS GUIDE

So how do the database packages compare? Our at-a-glance buyers guide shows you

	ADIMENS	DM PROFESSIONAL	DGBASE	K-DATA	PRODATA	SUPERBASE
Machine required	520 ST/STE	520 ST/STE	520 ST/STE	520 ST/STE	520 ST/STE	1MB ST/STE
Resolutions supported	Medium/High	Medium/Hig	Medium/High	Medium/High	Medium/High	Medium/High
Maximum records per file	65535	32000	Unlimited	Unlimited	Unlimited	Unlimited
Maximum fields per record	511	999	64	Unlimited	Unlimited	300
Maximum field length	780 approx	1100 approx	255	1638	Unlimited	999
Maximum indices	63	1	4	10	999	10
Integrated design and use	–	–	*	–	*	*
Calculations on fields	*	*	*	*	*	*
External text fields	–	–	–	–	*	
Use graphics files	–	–	–	–	*	
Programmable	–	–	–	–	–	*
Macros	*	*	–	–	*	*
Queries	*	*	*	*	*	*
User defined reports	*	*	*	*	*	*
Password protection	*	–	*	–	*	*
Online help	–	*	*	–	–	

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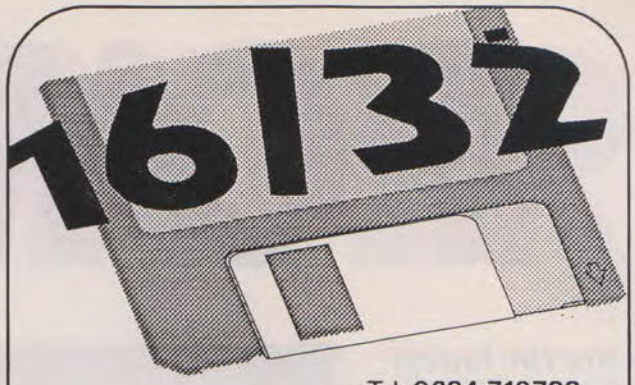

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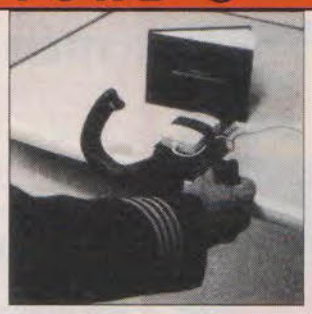

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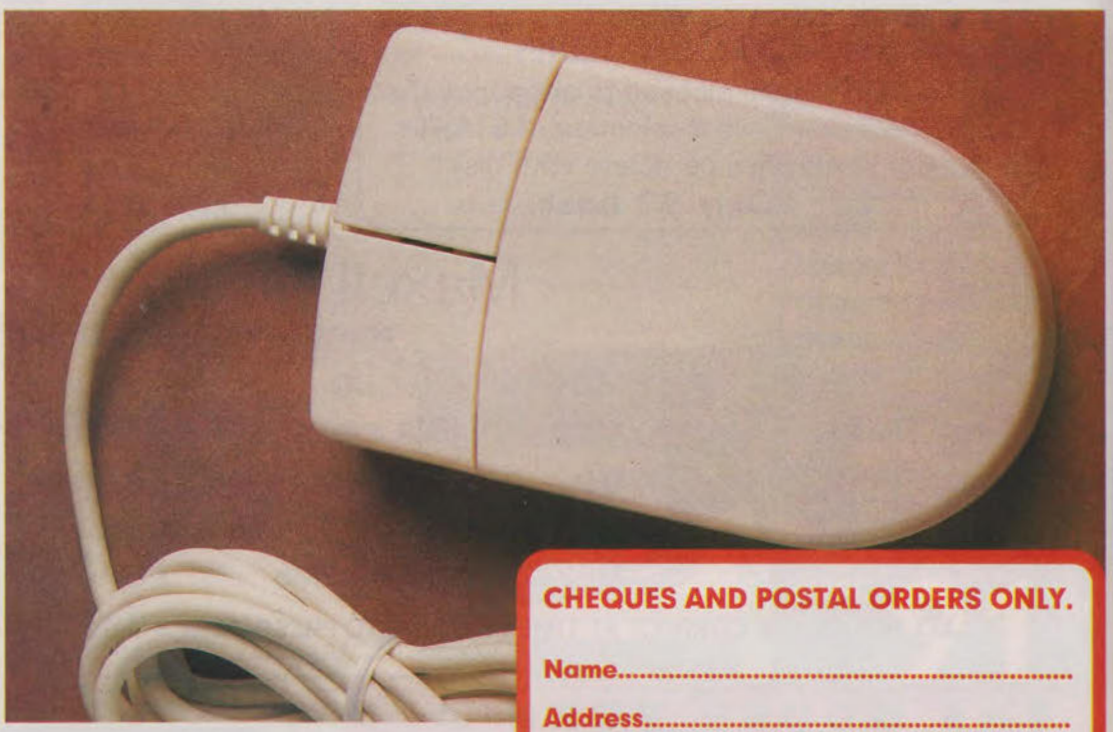

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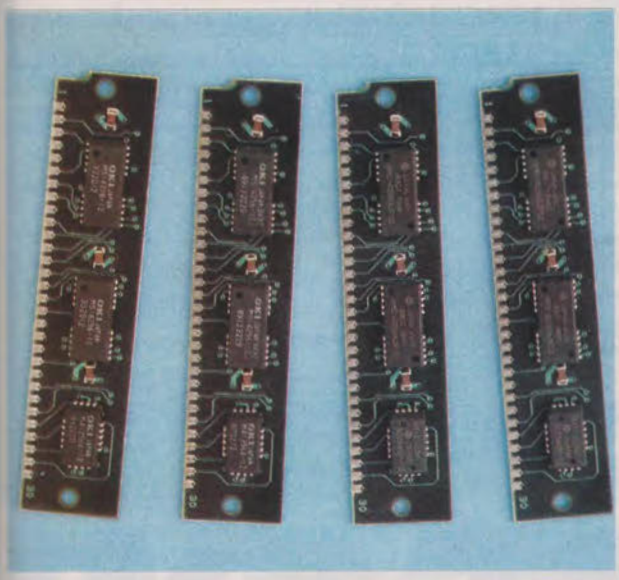

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BEAT-IT

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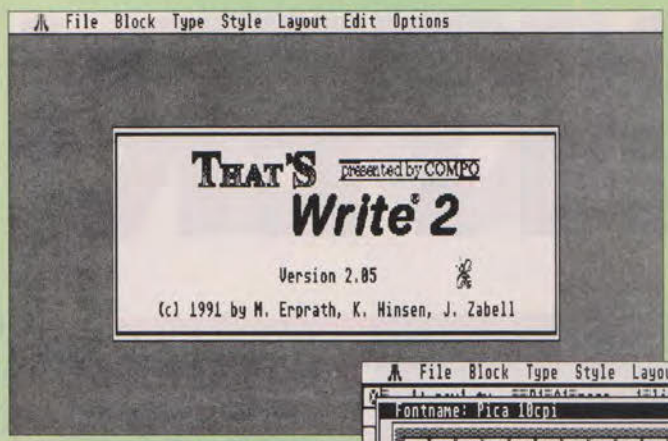
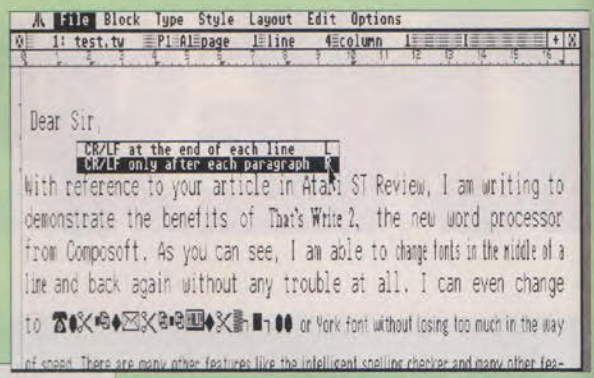
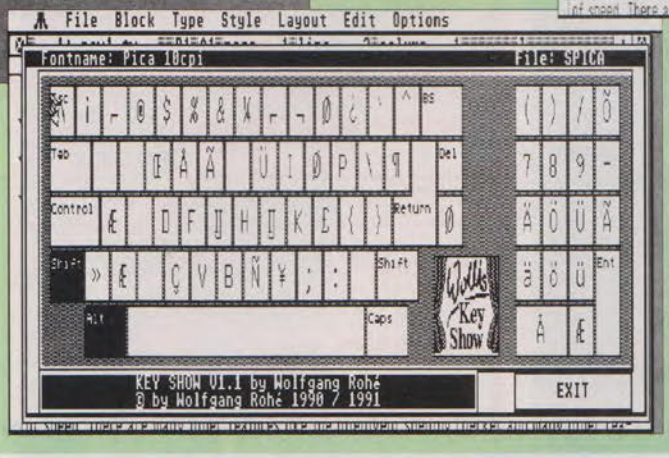


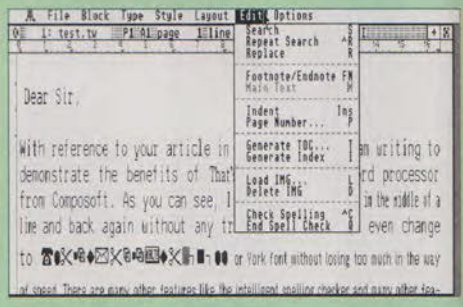
This is the screen that greets you when you boot up That's Write 2.



When you save a file as ASCII, you have these two options.



The Keyshow accessory. This is the first of the intelligent accessories from Compo. Note the keys are shown for Shift and Alt.



Here we have the Edit menu which offers Generate TOC (Table of contents) and Index, check spelling and more.

The latest word processor from Compo is about to hit the market-place. Tony Kaye looks at That's Write 2

WRITE OR

Word processors are probably the most popular programs among average computer users and there are a whole host of different packages available these days. As difficult as it is for the consumer to choose between them, the task facing a company launching a new package, and having to persuade users that this is the one for them, must be immense. So why plump for ***That's Write 2***?

It really depends on what you want to use your word processor for. If all you write is the odd letter to the bank, then packages such as ***First Word Plus*** are ideal. Indeed, ***First Word Plus***, despite its age, is generally recognised as the standard beginners' word processor. If, however, you want to be more creative, write a book, produce reports or even write a thesis and present it a little better, then you will need something more advanced and suited to the professional user.

WP OR DTP?

Word processors fit in to several categories, ranging from basic text editors to very elaborate "document" processors such as ***Calligrapher***. The question is, why not opt straight for a DTP package like ***Timeworks 2*** or ***Pagestream***? DTP packages tend to be slow to print because they use the printers graphics mode and bitmap images. This means that every individual letter has to be created each time it's needed, which slows things down. The basic text editors rely on the functions and fonts built into the printer. Although this is faster, it does limit the style of documents that you can produce. The answer is a program that will do both. This will give you the speed that you need for word processing and the versatility for different font styles and sizes.

REFRESHING CHANGES

That's Write 2 is the latest in a line of word processors from Compo, and it has several new features not to be found in other packages.

As soon as you load it up, you're presented with a title screen that seems to suggest that this package will be easy to use, but it's when you start using the package seriously that you discover its hidden talents. The spell checker is the first we have seen that is intelligent: not only does it beep to tell you when it doesn't recognise a word, but it will correct it for you if it can. For example, type "egt" and it will efficiently beep and change it to "get" for you. It will also capitalise place names that it knows. Teach it your name and it will capitalise that too!

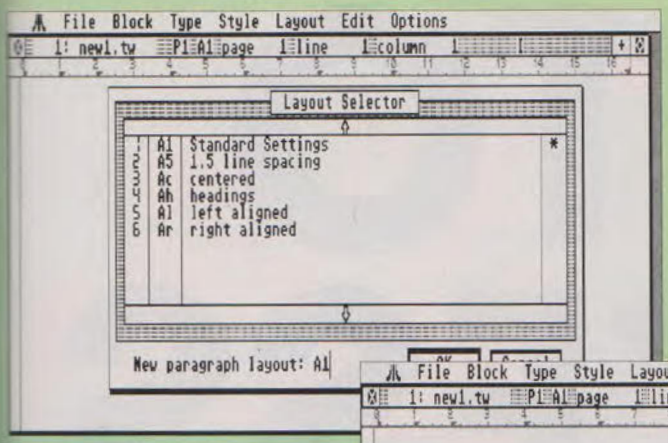
The dialogue boxes are shaded to look better and are movable too. In fact, the whole screen can be resized from any corner using the right mouse button. The sizing bars can be switched on and off as required creating a cleaner working environment.

Apart from the normal Save and Save As... options, the Save As

INSIDE INFO

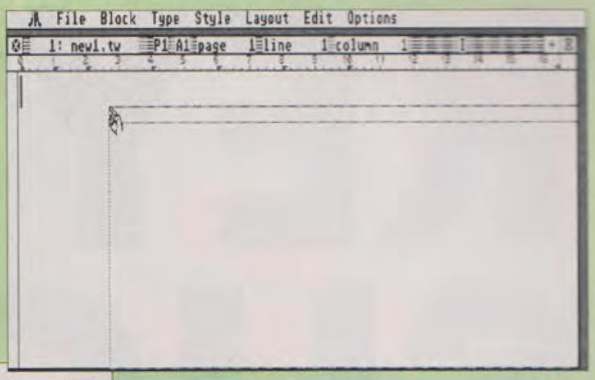
That's Write **has been the subject of ongoing development for about five years. It first appeared as a German product called** ***Starwriter*****. Following Star's decision to pull out of the ST market about three years ago, Composoft took over the sales, marketing and programmers. Compo specialises in the ST foregoing all other machines. They have offices in the UK, USA, Germany and Holland. Partner Neal O'Nions said: "We have an ongoing commitment to Atari owners and this product, among others is under constant ongoing development. There will be a** ***That's Write 3*** **and even** ***4*****."**

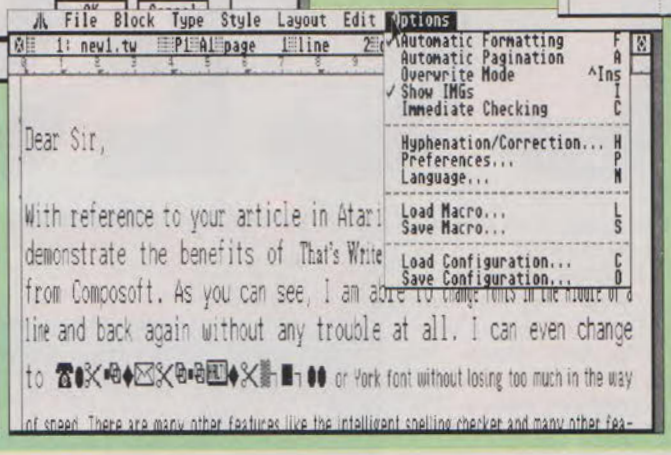
Compo has also said that there will be a version of ***That's Write 2*** **with full Postscript support by the end of the year. Upgrades will be available.**



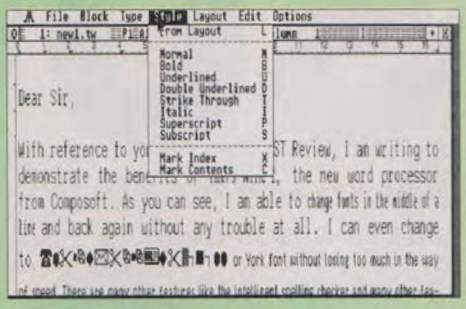
Setting up some different paragraph layouts.

By using the right mouse button, you can resize from any corner of the work area and have up to nine windows open, too.





Some interesting choices here. You can choose the language used by the spell-checker and even set up on-line checking.



The style selection includes the usual options for different font styles. You can change style as you go.

WRONG?

ASCII function offers you the alternative of saving with carriage returns and line feeds per line, or end of paragraph only. There are macros for every command, and you can define your own macros too. Just about every key combination can be used as long as it's not taken up by another function. Basic disk functions are included from within the program for deleting, copying and renaming files and creating a folder. This could release a valuable Accessory slot for you.

You can have up to 20 different fonts (memory permitting) and swap between them in the same line if needed. There is a nice selection in the package and you can also use Calamus fonts. The program will also support the new Jeremy Hughes (***Fontkit***) compressed fonts, which are 30 per cent of their original size after they've been compressed.

An accessory provided in the package, called ***Wollis Key Show***, will examine your program and tell you what character each key will give you including macro selections. If, for instance, you've programmed Alt T to give you a telephone symbol and Alt Y to give you a capital Y in Times, it will reveal that to you. ***Key Show*** is the first real example of a new generation of interactive accessories. Programmers are invited to use the system themselves, and the code is available from Compo.

Fast printing with flexibility
Many useful new features
Ideal for longer documents

PROS AND CONS

Memory intensive
No reference dictionary

There are some DTP-like functions, including multi-column layouts, and you can import images as well. Before you commit the final product to paper, there is a new Preview Print option which will give you a full page representation of what you've done. This is much easier and cheaper than having to print the page and then correct it.

AHEAD OF THE REST

When the package is used for writing something of length, like a thesis or a book, it really comes into its own. You are able to format paragraphs and recall them with a keystroke. For example, each chapter can be headed in one particular style, followed by a heading and body text in different sizes and fonts. This also allows you to create a table of contents or generate an index very easily using the editing functions.

There are separate options for paragraph and page layouts and the ability to instruct the program to execute a particular routine and recall it using the Follow Instructions command. Nine working windows are available to the user, overcoming the GEM limit of four (or seven with TOS 2.06), and the package comes complete with mail-merge facilities.

SLIGHT RESERVATIONS

The program has no direct access to the dictionary, which is the only real minus point that we can find. Hopefully this will be included in later releases. The dictionary is there, as is the option to check other languages (German, French, American, Dutch and English).

At the time of writing, the documentation had not been completed, so we can't comment on that; but if the earlier version is anything to go by, it will be clear and comprehensive.

If you use a word processor for more than just the odd letter, you could do a lot worse than ***That's Write 2***. Composoft has made the package user friendly and, we are told, Falcon compatible. Is this a first, I wonder?

"Fast printing and flexible font handling"

NAME: THAT'S WRITE 2
COMPANY: COMPO
CONTACT: 0480 891819

PRICE: £129
RELEASE DATE: OUT NOW
MIN MEMORY: 1 MB

EASE OF USE	✪✪✪✪✪
DOCUMENTATION	✪✪✪✪✪
EFFECTIVENESS	✪✪✪✪✪
VALUE FOR MONEY	✪✪✪✪✪

OVERALL 82%

KEYS TO SUCCESS

The keys on the ST have never been noted for their feel. Tony Kaye shows you how to improve them, one step at a time

ADD ONS

Switch on your ST and one thing you notice when you use the keyboard is the lack of a positive response from the keys, especially when you compare them with a PC or a Macintosh. Use a TT or a Mega ST and the difference is noticeable immediately. The good news, however, is that you don't have to put up with the sloppy keys the standard ST comes with. The alternative is to cut the beast open and operate.

The operation is simple. All you need are a couple of screwdrivers, a flat surface and a set of new Key Clicks – ours came from Atari Workshop. First, remove the cover of the machine. There are seven screws on the base with square holes: remove these and then turn the computer over. The top should now lift off. Next, remove the keyboard itself. It's just resting in position, but there is a plug to remove. Now turn the keyboard over and undo the 28 small screws holding the keyboard together. Keep all the screws safe as they are different sizes. There are two screws holding a clip over the mouse and joystick ports which have to be removed too. Carefully work the two halves of the keyboard apart, keeping the whole thing upright. You will notice that a couple of the spaces for key clicks are not used, so remember which ones they are when it comes to replacing them. The easiest way to install the new key clicks is to lay them into the recesses under the keys. Prop the main part of the keyboard up when doing this. We used Blu-Tack for this, but anything that allows the keys to drop will do. Carefully replace the bottom half of the keyboard (the PCB), taking extreme care not to bend or break the LEDs on the board and replace all the screws, including the mouse port retainer.

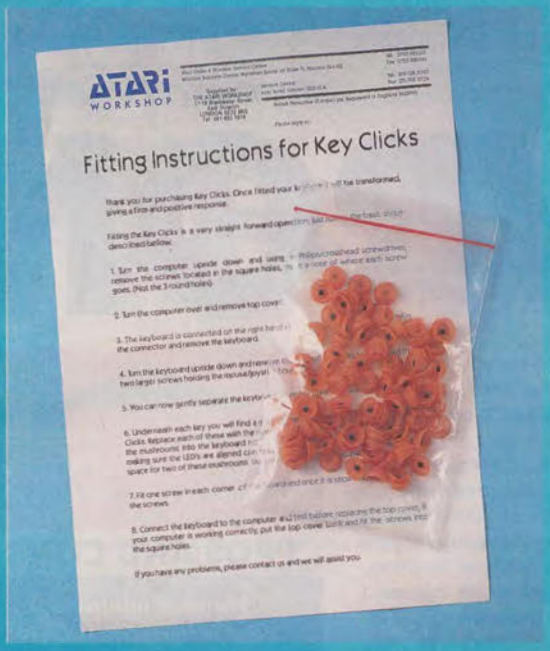
At this point it's wise to test the keyboard to make sure that everything is working. Turn it over and plug it in to the computer. Rest it back in its place and put the cover back on by getting the drive button on the right-hand side located in the hole on the ST's top and then pushing the left-hand side into place. Now carefully connect the power lead and switch on. Try all of the keys, paying particular attention to the return key. It has space for two rubber key clicks, but only one is used. If you've put two in there, the key will be firmer to the touch than the others. The same applies to the left shift key.

If all is well, replace the screws into the back of the ST. If not, turn off the power, remove the top and inspect the keyboard to make sure that all the key clicks are properly located. Repeat this until you are satisfied with the keys' response. You have now transformed your ST into something with a keyboard that will feel more positive and responsive.

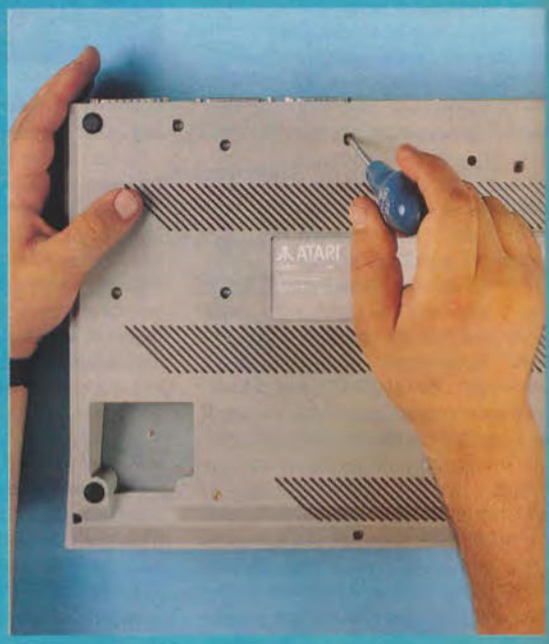
WHAT YOU NEED

Apart from the new set of key clicks, you only need a couple of tools to complete this project. You will need a small crosshead screwdriver to open the ST and remove the mouse port retainer. A small crosshead precision screwdriver is ideal for the smaller screws on the PCB behind the keyboard itself.

STEP BY STEP

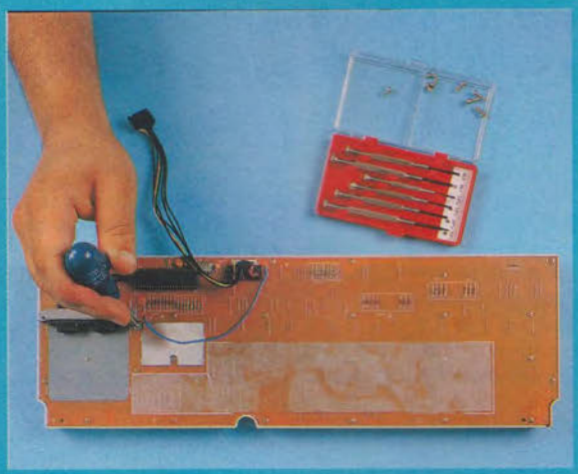


1 *The new key click kit from Atari Workshop. This is all you need in the way of parts. For more details of the kit, contact them on 081 693 1919.*

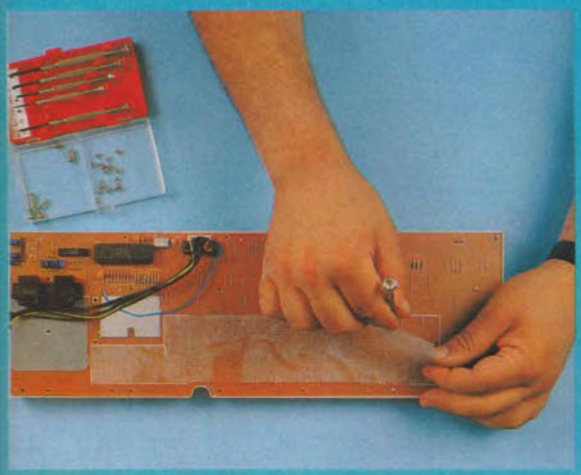


2 *Turn the ST over and remove the seven screws that hold the case together. These have square holes. There are four along the back and three at the front. Keep the screws separate as the front ones are shorter than the others.*

3 Carefully remove the keyboard from the case. It isn't held in by any screws, but you need to remove the plug. Don't pull the plug out by the leads as these can become loose and cause you problems.

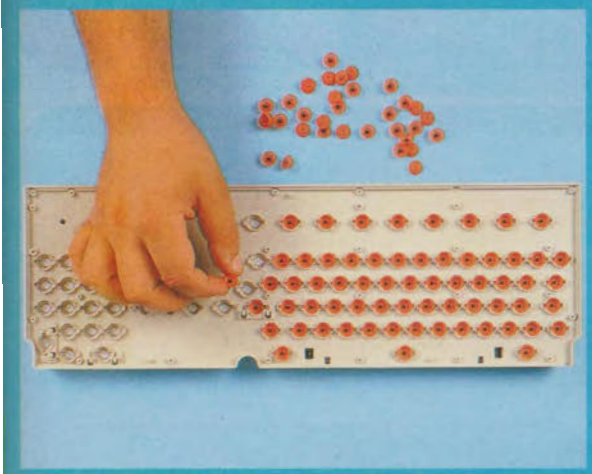


4 There are two screws holding the mouse port retainer which need to be removed. The clip comes off too.

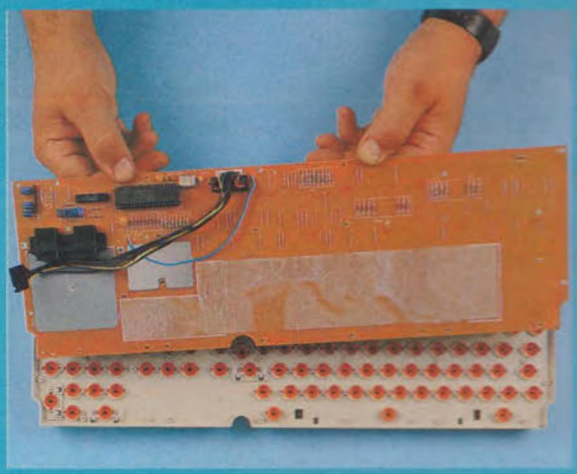


5 There are 28 screws holding the PCB to the back of the keyboard. Remove these and store them safely. Three screws are under a sticky pad on the base: carefully prise the plastic up to take these out.

6 Keeping the PCB flat, pull the two halves apart. Most of the Key Clicks should appear on the PCB, but some will stick to the inside of the keys. Putting extra key clicks make some of the keys firmer than others.



7 Place one of the replacement key clicks in each of the recesses on the underside of the actual keyboard.



8 The next step is to replace the PCB, taking care not to damage the LEDs. (These are the two that show that the ST is on and the disk access light).

9 Once all the screws and the mouse port retainer are replaced, the keyboard can be put in the outer case and plugged in. Plug the power and monitor leads in and test the keys.

10 Provided that everything is working, you can now replace the cover, screw it all back together and the job is done.

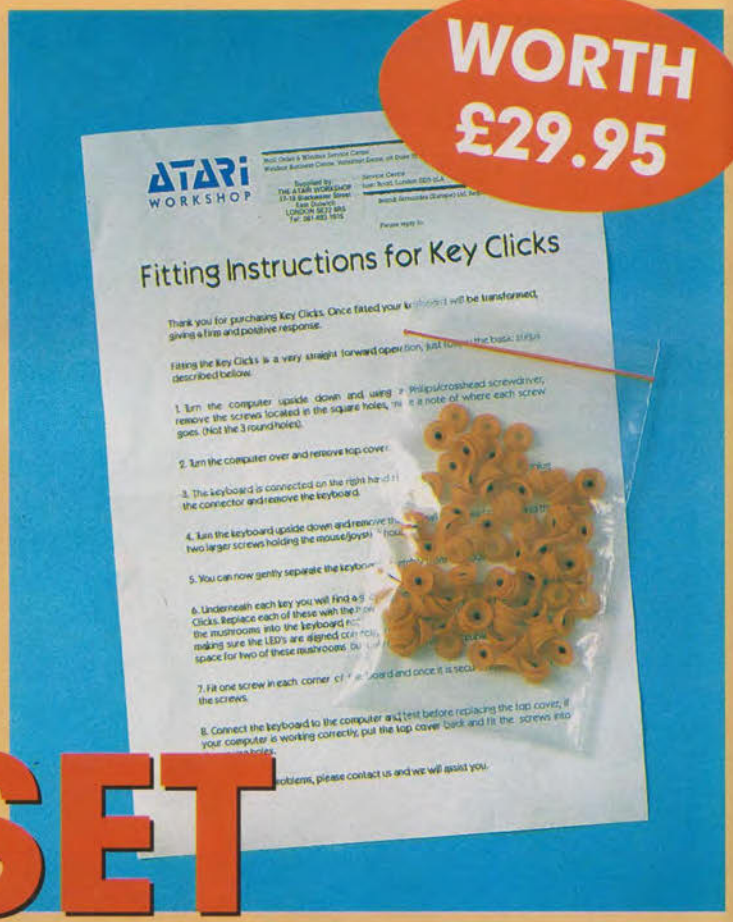
You've seen how it's done, now you can do it yourself for free with one of our sets of Key Clicks in this easy-to-enter competition

Our step-by-step guide this month shows you how to improve the feel of your keyboard by replacing the existing rubber "mushrooms" under the keys with a new set. This totally transforms the feel of the keyboard, making them more responsive, in line with the Mega ST range.

Find out for yourself what wonders these little gems can work with one of three sets that we have to give away, courtesy of Atari Workshop. To be in with a chance, all you have to do is answer the questions below. Remember, if you already have a Mega ST, you really won't need the upgrade.

The Key Clicks are fitted by removing the cover of the ST and the keyboard. There are two large screws holding the mouse and joystick housing and 28 smaller ones holding the keyboard together. Once these are removed, you can gently separate the keyboard assembly from the housing. The old grey rubbers are replaced by the new Key Clicks. Now carefully reassemble the keyboard, taking care to make sure that everything goes back in place. A full backup service is offered by Atari Workshop if you get into difficulties.

So, what are you waiting for? Get answering those questions now. A set of Key Clicks could be on its way to you.



WIN A SET OF KEY CLICKS

Answer these simple questions:

1) What colour are the original Key Clicks before inserting the new ones?

Answer.....

2) What machine(s) are the Key Clicks suitable for?

Answer.....

.....

3) How many screws IN TOTAL have to be removed from the keyboard?

Answer.....

Name:.....

.....

Address:.....

.....

.....

.....

.....

.....

.....

.....

Postcode:.....

Send your completed coupon or a photocopy (one entry only) to: Key Questions, Atari ST Review, 30-32 Farringdon Lane, London EC1R 3AU, to reach us by 14th October.

Tonight you could take Covert Action against foreign agents, deploy Special Forces on a secret mission or fan the Flames of Freedom

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Catalogue: Disk based - 75p Printed - Free. Please send S.A.E.

Characters between asterix's show special requirements:
M = Mono Res *C* = Colour Res
D = Double Sided Disk *X* = 1 Meg Ram
S = Not STE or Rainbow TOS

DESK ACCESSORIES & UTILITIES

301 Dir printer, RAMdisks, .ACC loader etc.
302 Clock, calculator,free Ram checker, Breakout .ACCs
328 Calendar, clock, Disk Manager .ACCs
303 Fast copier. Hex Dump. Degas to Neo, Koala to Degas & Neo to Degas. Seced disk editor.
337 Utils for Hard Disks
333 Printer drivers for 1ST Word, Degas & Gemfont.
385 68000 assembler, an Address/ Mailing list.
824 PICSWITCH 7 changes all graphic res. Hi-Res/Colour emulators. BBOOT, drive. SWITCHER, 2 progs in memory.
517 STE BOOTUP, med res bootup.
886 DIY DEMO, Make scrolling demos featuring a title screen & scrolling message.
836 ARC file compiler. BICLOCK to set time/date. KEYEDIT reconfigure the keyboard to print any characters. MONOEMU v5.0.
881 100% IBM compatible formatter. ARC SHELL v1.91. DC clock. STARGEM. VIRUS DESTRUCTION UTILITY V2.1.
854 The DATABASE CONSTRUCTION SET. Spellchecker. DEFSEL.
379 GULAM CLI shell/Command Line interpreter.
383 DRFLOPPY, a disk sector editor.
829 Various progs for printing all kinds of labels.*M*
882 CHK 2.3 Everything you need to know about a disk. DCOPY v3.02. Desktop Manager v2.1.
585 ANTIDOTE, Superb Virus killer.
857 DISKMECH is a powerful disk analyser/ archiver/editor. CPANEL vastly improved control panel.
561 GENESIS is a Fractal landscape generator. FORMAT 10. VKILLER. PCOMMAND. XUTILS.
884 AMC GDOS. GDOS replacement. ARC SHELL v1.98. DISK TOOLBOX v2.03.
387 BOOTGEN, maintain disk sectors Boot.
584 MOUSE TRICKS, a .ACC extensive control over mouse movement & menu style.
883 MX-2 v2.3 a multi-tasking & multi-user enviroment.*D*
834 DOUBLE CLICK format v3.03 9/10 sectors, 80/82 tracks.
842 DEC edit clone, Disk engineer v3.01.
382 Archive utilities, including ARC, EXSQUZ, SQUEEZE, STPACK, STSQ etc
324 ADDRESS LOG, limited address book & label printer. Disk catalogger.
844 WPTOOLS, written for 1ST word, inc, alarm clock, Printer selection, Wordcount, Relabel(Disk volume), Format, Undelete file.
747 TURTLE, A HARD disk backup utility.
728 HEADSTART V1.1, excellent program that allows you to autoboot programs, inc. GEM from an Autofolder. +
730 GEMINI Desktop replacement. All English version of a replacement Desktop simular to NEODesk. *SX*.
384 On this disk is a prog called LABEL EXPERT good label maker. Preset formats for floppy disks, video, & cassette tapes. *M*.
843 AUTOGEM autoboots any Gem program when booting. XFORMAT2 extended formatter & VC Spreadsheet.
745 STAR LC-10 UTILITIES. PRINTER config utils for 1st WORD & 1st WORD PLUS. TRANSPORT 90 download alternative character sets. STARACC.ACC control the usual functions of the Star LC-10 multi-font printer.
746 SUPER VKILLER detects 5 different viruses,recognises 7 anti-viruses & 133 other types of boot sector.
573 Files to assist in graphic print-outs for 24 pin Dot Matrix printers.
572 GEM PLUS. This is a great variant of Neodesk.
749 RECOVER is a file recovery utility.
438 REAL TIME MULTI-TASKING OPERATING SYSTEM. *D*
439 GEMDOS USERS GUIDE.
572 GEM PLUS. This is a great variant of Neodesk. Alter desktop icons, design your own, and do the same with progs.
381 dbMAN tutorial. Visicalc style spreadsheet. Disk formatter. Multi-purpose file print util. Mramdisk. acc. +
882 CHK 2.3 - Disk checker. Desktop Manager v2.1. IBM MODIFIER alters DS Atari disks so that an IBM can read them.+
885 PROMOUSE self-adjusting mouse accelerator. RATTRAP locks out menus. TURBODOS. MAXIDISK reset proof Ramdisk.
333 Printer drivers for use in progs such as 1ST Word, Degas & Gemfont.
444 XCONTROL: ATARI's latest TT control panel accessory for all STs.
448 CYPHER: Encodes pics so that they cannot be loaded into normal art packages. LITTLE GREEN SELECTOR.
454 MEMFILE 2.0: Memory & powerful disk editor.
457 HD SCAN 1.6: Comprehensive shareware hard drive manager.
481 STDCAT V4.0. disk catalogger
623 SUPERBOOT V7.0

GRAPHIC, FONT AND ART/DRAWING DISKS

323 Great digitised pictures. 5 from Raiders of the Lost Arc & 12 from Ghostbusters.
375 FONTEDIT v3.0, Editor & loaders for Ram & downloaded fonts. not STE.
577 PALART. art program with full docs.*C*
390 E-PLAN CAD, stock list facility.*M*
391 COLUMBIA, drawing prog part 3D. Studio (*X*) menu driven drawing package. Both German.
397 DOODLE, art package, Mono & Colour versions.
578 ST GRAPH. comprehensive graph program
376 FONTS2, Screen & desktop fonts. Columbia, Devoll, Hudson, Saturn, Spokane,. Thames & Universal Roman.
876 DELUXE FONTMASTER v2.0 *MD*
757 CANVAS, a great art package, fully supports STE.
879 PALETTE MASTER, art package, great features, up to 512 colours.*C*
388 Pics, Mona Lisa, Moon, ST keyboard, Planet, Yoohoo, Saturn & others.
803 Amiga & Macpaint pic files plus PICSWITCH which can read Neo, Degas, etc.
808 FRACKTAL is a fractal drawing program from Germany. Fractal landscape prog.
850 FONTKIT 3.31 An excellent font program. * D *
880 COLOURBURST 3000 v0.2, add different colours to pictures from other packages.*CX*
888 ANI-ST, HIGHLY PROFESSIONAL quality animation system.
396 MASTERPAINT, drawing package, Mon & Col. LITTLE PAINTER.
394 PICWORKS, utility for enlarging, reformatting & manipulating pics.*M*
809 AIM v3.21, An image processing package.*DX*
540 PUBLIC PAINTER An excellent German art package.*M*
820 SNOOPY, 25 cartoons with display prog.*C*
577 PALART. Excellent art program with full docs on disk. Excellent features. *C*
556 VAN GOUGH(Dutch)& STUDIO2(*X*), art packages *C*
401 LOW COST CAD 6.20. PD demo version.
442 ST CAD v2.1, med/high res CAD package.
393 THE ARTIST, drawing package*M*
469 JILCAD, a good shareware CAD package. Lots of features (2D)Add-ons available. *XD*
471 FONTS, Calamus PD fonts from USA. Advert, Babyteth, Barnum, Carolina, Casual, Celtic, Chancery Bold, Chancery + others *D*
785 MOVIE CONSTRUCTOR: animate objects & text. FACE ANIMATOR.*M*
775 FULL SCREEN CONSTRUCTION KIT V1.9.*DX*

CLIP ART

521 Various human figures, different cartoons, Titles & more.
522 Sports figures of high quality, July 4th logos.
523 Children's whimsical & elaborate fonts & Christmas card images.
524 Food images, Atari ST & Fuji logo etc. Disks, Computers, Robots & other Sci-Fi.
525 Faces & Eyes, concentrating upon expressions, Horses, Building plan symbols & some different Christmas images.
526 American trademarks from the 1920's & 1930's. Some very atmospheric images.
527 Various borders, fints etc. High arty & cartoons - Picasso to small fluffy animals.
732 IMGSHOW, IMGVIEW show progs.Various fruit, over 20 arrows & Access symbol.
733 Occasional Clips, Various Characters etc,
734 Loads more fruit, Vegetables.
735 Herbs & Kitchen parts.
736 More Arrows, Artdeco, Breakfast, cups/glasses & more kitchen parts.
738 Humorous clips plus the individual letters A-Z.
737 Babies, Boys & girls.
739 More Girls, Scrolls & Occasional clips.
740 More Artdeco, Baby Boy & Girl
741 More Varied Humorous clips.

WORDPROCESSING & DESKTOP PUBLISHING

727A-F TEX, 6 DISK PACK, Includes TEX the document processor & typesetting system.*DM*
835 1ST WORD Wordprocessor. Fully GEM based professional wordprocessor.
831 (SS)/841(DS) EASY TEXT v1.2 Fully working Desk Top Publishing demo.
482 ST WRITER ELITE,4.1. Latest version. additional utils on disk 363.
758 STPAGE is a super fast editor. It produces pure ASCII files for writing programs.
450 REVENGE V2.01: Super intelligent document displayer.
877 ST FOLDING EDITOR v0.9A Shareware 'folding' text editor which allows sections, sub-sections & paragraphs to be made invisible so the structure of the document can be clear.

GAMES DISKS

All games are in colour unless otherwise stated.

343 SHERLOCK, A cluedo game Sherlock. El Bozo City, Sci-Fi text adventure. Around The World In 80 Days, collect 17 souvenirs in order to succeed.* M *
317 Battleships, Checkers, Maze, Megaroids (Mono), Pool.
547 ADDICTION, card game patience, graphics *S*.
863 SLEUTH, A CLEUDO style whodunnit. LOCATION CRISSLEFRIDGE.
891 SUPERBREAKOUT, 40 brick types.*M*
894 DEEPLAIR, 2 player underwater shoot' em up.
554 NAPOLEON, conqueror Europe.*M*
352 Eamon is an Adventure game writing write your own games. Comes with 5 games.
856 CHESSNUT, is a 3D chess game. SPOOKS is a great PACMAN clone. BELLUM INTERNECINUM, Galaxian clone. *S*
781 MAKE A BREAK, A great Trivia game leaning heavily towards Snooker rules.
761 EMPIRE BUILDER property development, LOST TREASURE. JUMPSTER.
762 RUSH, move bricks to create a way out for the ball.*S*
763 BUMPER JACK superb platform game.*S*
764 YAHTZY. *S*
545 UPSTART shoot the cherries *S*.
765 COMPANION shoot'em up in outer space.
548 ENGLAND TEAM MANAGER. Football team management. MILEGAME.
566 DIE ALIEN BLOB, shoot the coloured balls & avoid the laser cannons.
344 Baller, arcade castle & cannons game graphic adv.*M*
309 ADVENTURE WRITING SYSTEM.
766 TUNNEL VISION, maze game. PATIENCE card game.
552 BERMUDA RACE 2.
562 INVASION. adventure set on a huge spaceship.
544 AYATOLLA, Defeat the terrorists.*S*
868 ROBOTZ, highly addictive & very playable game. 40 levels.
847 FRUIT MACHINE fruit machine simulator.
546 SLIDER, good quality puzzle game with 3 levels.*S*
507 SKULDUGGERY runs in Mono & Colour. 100 levels.
508 ATOMS is a mentally challenging game for 2-4 players. KILLERCHESS. AMMOTRACK race & blast'em game.*S*
565 SKIDPAN, motor racing game.*S*
529 STOCKMARKET, Wheel & deal. GALACTIC WARRIORS, a good shoot-'em-up.
346 ADVENTURE Colossal Cave type Adventure.
855 EXPLODE outwit an opponent on a Chessboard type layout. BALLZONE an Arcanoid clone. JITTERBUG, try & rescue aliens.
528 FLOYD THE DROID, an ultra fast shoot'em-up.
530 AIR WARRIOR, a Flight Simulator.
531 COMPUTER PINBALL. DEVASTATOR & a DARTS game.
576 TALESPIN. The wolf and the 7 kids.
513 FUZZBALL a great platform game
515 SHIPWRECK, educational maths with graphics. *S*
512 ZOG a great blasting game. SUPER SENSORI.
514 A DUDLEY DILEMMA, great adventure game. You guide a student at Harvard University in an attempt to get a Diploma.
518 Cribbage, Othello, Yahatzee, Wheel of Fortune
519 WIZZARD'S LAIR complete text & graphic adventure.
780 UNDER BERKWOOD massive graphic adventure
782 NAVAL BATTLE A good version of the good old Battleships
705 HARRIS WENT SKING, *S*
783 CHESS,MONOPOLY, BACKGAMMON, LASER CHESS
709 CORE WARD, You have to write rival programs.
710 VIRUS, a game with great graphics and sound.*S*
403 FLYOVER, a bombing raid game.
404 GLOB, you collect cherry cakes while avoiding pursuers.
405 BOXING CHAMP,*S*
406 TRACKER, drive your tracker through enemy.
407 OVERLANDER fly in & destroy the enemy base.
408 CHANCE, destroy the Archons
409 ESCAPE FORM THE TOMB OF RA, collect jewels to prolong your life, find the secret passsages.
410 MUTANT, A reactor goes out of control. Workers mutate. You must get to the end cavern and destroy it.
411 KEY TO ATLANTIS, excellent scrolling shoot'em up.
412 GRAND PRIX, good fast racing game.*S*
413 MARS MAZE, good platform game.*S*
414 STEEL, blast everything in sight.
415 BATTLE COMMAND, Missile Command clone.
416 WHEEL OF FORTUNE, good quiz base on TV program.
417 HEDGEHOG, FROGGER clone.*S*
418 THE NAME GAME, based upon the Sun puzzle.
419 CHESS, a very good implementation.
421 COMPANY, business simulation.
422 MOTORBIKE, drive your bike around the track.
423 TARK, great text adventure. D & D type.
467 BATTLE FOR THE THRONE, a role playing adv.
449 LLAMATRON: A great Shareware game.
451 VIDEO POKER, Las Vegas poker playing machine.
452 DERRICK THE DROID: A great mix of platform, Shoot'em up & puzzle game.
772 PORK I: A parody of the Infocom adventure ZORK I.
784 PORK II: Another send up of the ZORK series.
773 MORIA: A fantasy role playing game.*D*
779 PICTURE CONCENTRATION: Children's recognition & matching game
788 ROLL 'N' NUDGE:fruit machine game.
789 DUNGEON!: Multi choice fantasy adventure with some humour.
778 C ADVENTURE TOOL KIT.
712 ASYLUM: Text adventure set in an asylum.
713 HACKMAN: 509 level Pacman clone.
714 ELVEN CRYSTALS II
716 FROGGY: Frogger arcade classic.
460 NETHACK THE ADVENTURE, text based adv.
461 STARMAZE: Guide your craft around the various levels.
896 A NIGHT ON THE TOWN text graphic adv.
897 TILE GAME, rearrange letters. *S*
899 SOKO, 50 levels. *S*
596 QUIZ CONSTRUCTION KIT. STOS TRACKER FILESPY 1.2 *D*
597 MEGAROIDS, RIPCORD, SPACEWARE, BUGS.
491 BATTLE SCAPE game
600 FRUSTRATION & CRISS CROSS; ZPOKER.*M*
601 BACKGAMMON & POKER SQUARED. *M*
605 OZONE arcade game
606 FLY ROBIN & SANTAS WORKSHOP
607 PENGUIN, shareware.
608 CROCODILES PASTIMES.
609 ARTHUR OF THE BRITTONS: Adv/ Arc game.
620 KOZMIC 2; *XD*
625 REVENGE OF THE MUTANT CAMELS.
628 MR DICE, KLATRIX
629 SPACE INVADERS
631 BLOCKADE
617 INFILTRATION, game
799 BOMB OUT BROTHERS, Compilation disk No.1. MAD MOLE, great version of the Boulderdash, LASER RACE, defeat enemy laser cars in the arena.. ALIEN BLOCKADE, based upon the arcade game QIX.
563 DARKNESS IS FOREVER, adventure full graphics in Mono or text only in Colour.
354 Diamond Miner is a multi-screen game with a built in games editor. Snafu & a card game called Skat.* M *
402 JITTERBUG,The ship contains rare alien lifeforms which you have to catch.
326 Arcade games including Warzone, Daleks, Haunted House & Mousemess.
547 ADDICTION, a great version of the card game patience, great graphics (not STE).
329 Checkers, The Original Adventure, Pool & a fun Chess game. * M *
891 SUPERBREAKOUT, There are over 40 brick types all with special features.*M*
351 HACK 1, a Dungeons & Dragons text adventure with graphic maps.
511 SCANNER a checkers game, SPACEWAR, 2 space ships battle it out
707 CENTAURI, a Horizontal scrolling shoot 'em up.
786 SIMPLE DRAW V3.4: A great art package that works in medium & high Res. Degas compatible samples included. (Docs foreign)
787 HYPERTEXT: Shareware prog suitable for the production of very professional documents. Simular to a DTP but more flexible, pics & text easily mixed on screen *MD*

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574 6800 ASSEMBLER.
702 STOS SOUND FX CREATOR.
325 XLISP v1.7, Experimental object orientated language. Includes masses of docs.
828 STOS RUN, is a utility that enables you to run STOS programs without STOS.
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306 CPM UTILITIES, for 305.
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839 Nigel Smith's ST 68000 Ref. pop up guide v2.0
887 SOZOBON C, the best PD C compiler with full K & R compiler support.*D*
759 Sprite designer & editor.
440 C TUTORIAL, superb disk manual that provides an excellent intro into C programming.
474 GNU GDB, capable source level debugger. SZ ADB, debugger for SOZOBON C.*D*
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476 MODPAS, Pascal Compiler with CLI.*D*
711 6800 M/C course by Mark Van Der Boer.

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316 XMODEM, MODEM 7, a multiple file transfer utility, transfer a whole disk in one go. Plenty of docs.
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718 TWB DIGI-SYNTH 4: 9 MOD files with player.Shadow Warriors Intro, Stress, Show, Alf, Biomix, Grandmix, Harleymix, Horney, Sanxion.*D*
598 MIDI v 2.0 Med/High res Midi monitor. EX800v2 DATA LIBRARIAN, Med/High res. TUNING 2 v2.
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487 Daybreak Step Time Sequencer v.3.
466 GHETTOBLASTER, a simple but enjoyable demo designer. LOW RES.
477 MFP, music design package from Yugoslavia. Comprehensive package in English *DX*

EDUCATIONAL
859 REBUS WRITER, This is a superb program, design & print Rebuses.
341 BARNYARD the animals from memory.*C*
555 WELCOME TO CHEMISTRY V2.8.*S*
564 CHUNNEL, A Fench to English game & vice-versa *SC*
539 TYPING TUTOR(2) A very good package, full documentation.
557 SPELLING MADE EASY, The computer speaks the word & you then type in the correct spelling.
558 MATHS MADE EASY, great prog with speech synthesis.
872 KIDGRAPH, painting prog. which lets children. KIDMUSIC, KIDPIANO, KIDPOTATO.*C*
559 KIDPUBLISHER, DTP for the young.
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428 GEOGRAPHY TUTOR, a great shareware package. Covers Europe.
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GENERAL
575 CONSTELLATIONS. A comprehensive Astronomers disk *M*
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DEMO's
586 LIFE'S A BITCH, demo by The Lost Boys *D*
587 STEVE'S COMP' DEMO NO.1 Bat Demo, Micromix II, Fuji Bonk.*D*
588 STEVE'S COMP' DEMO NO.2 Megabang, Robomix, & Magiceye.*D*
589 STEVE'S COMP' DEMO NO.3 Micromix, Stingray & Ballit.*D*
568 THE DEFINITIVE DEMO, by The Lost Boys.*D*
569 SLATATANIC CULT, Music Bemo I & Music Demo II*D*
591 ASTERIX DEMO, digital sound & pics.
593 TRANSYLVANIA DEMO by The Lost Boys *D*
542 REFLEX DEMO, THE OPPOSITION *D*
542 REFLEX DEMO, THE OPPOSITION *D*
599 COUNTERPOINT DEMO
479 CUDDLY DEMOS *D* Not STE
488 POV23, TCB Sound tracker, Micromix 3, TLT & Yello demos.

NEW ADDITIONS
610 FASTBASE; great DTB
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615 COMPACT OFFICE MANAGEMENT PROG comprehensive*D*
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639 MOUNTAIN, LSYSTEM.fractals
643 ACCOMPANIST 2.4.
644 ARTPRINT *M*
653 FCHECKER V3 & FLISTER AUTOLOADER.
658 ARCSHELL 2.05.
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666 JAMES desktop butler.
667 GRAV, rotate & thrust game.
674 TOP DOG, Greyhound form prediction system.
100 BLACK DAWN, Adventure with very nice graphics. Destroy the Lord Darn of the Narcollisis. *D*
101 FORMFINDER V2.1, loads of features, limited to 10 runners per race & no print option. RIP IT UP, over 30 questions to teach & test your knowledge on road signs & symbols. Both shareware.
102 MASTERTIME, Educational Shareware program to teach the time with Digital & Analogue clock options. The difficulty level is graduated.
103 RAMWORLD, 3D World & Object creator & viewer released as shareware.
104 COLLECT, vertical and horizontal scrolling game. Battle the robots & obstacles.
107 SHOWMEM V1.5, runs a .prg or .acc on all STs & TTs. A technical utility for utilising & minimising memory usage. N_SYSCOM1.1, use to see Gemdos, Bios, Xbios & Gem actions your computer is doing on screen. + much more.
110 HPCHROME, This program prints Degas & Neo pics in colour on HP Deskjet printers.
111 SLAYER. The game is not like a standard text adventure whatsoever. It has over 650 locations, no verb input and over 50 different endings. Docs on disk *X*
112 PLOTTING, full instructions on the disk. Comes with a construction option. Eliminate blocks by hitting them with the same marked block.
115 1st WORD .IMG FILES. 188 *.img files. A great selection. Something for everyone, courtesy of L. G. Robinson.
117 UTILITIES by A. Sutton, The Address book v1, address database with print options, search etc, load & edit printer drivers. BRAKCHCK, is a short bracket checking programming aid. DENCRYPT, disk encrypter for encrypting "personnel" files. .FORMATER, formatter with a fast load format option, simple but effective. SATTRIB, a short file attribute modifier which can be used to hide or protect files.
119 GAMEPACK 2 from Erictronics, AWARI, Ancient African game played with 14 bowls & 36 beads. NIBBLERS, Eat away at the biscuit, the person who eats the last piece is the loser. QUEEN (*S*) Based on the moves of the Queen in chess, player verses computer. SOLITAIRE, simple variant. TRAFFIC JAM, Control London's traffic lights.
140 BLAT, great 3 in a row falling block game (STE only).
141 MYSTIC WELL, Dungeonmaster type adv.
142 MINDLOCK, Trivia quiz game, various subjects STE only. *X*
143 ANARCHY ACADEMY, great 3D shareware game.
144 T-GAME, good falling block Tetris type game.
145 GRANDAD & THE QUEST FOR THE HOLEY VEST, the ultimate adventure? *DX*
159 VIOLENCE!, vertical scrolling shoot 'em up in the Xenon mould.
160 CYBERSNAKE, variant of the classic 'snake game'.
161 UNKULJAN UNDERWORLD, large fantasy text adventure. *X*
162 PABLO & THE GLOD OF MONTEZUMA, Fast action boulderdash type game.
163 NUTHOUSE, Massive demo with 18 minutes of digital music. *D*
164 SO WHAT, 17 great demo's from the Care Bears.
165 OVERDRIVE, Plasma fractals etc, demo by Aggression
166 ALCHEMIE JR, Great Swiss multi-window /multi-task sequencer. *X*
167 SAGROTAN, great virus killer. *X*
168 CRACK ART, Excellent German art package. *D*
169 STAC, The ST Adventure Creator, now PD.
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171 JIGGERS, a strategy game of coloured squares to make you think hard.

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As the long summer holidays come to an end, it's time to think about education again. Pat Winstanley looks at a variety of programs to help your youngsters learn during the long, dark evenings ahead

BACK TO SCHOOL

ADI - WHAT IT IS

ADI is the main character who features throughout the various ADI packages reviewed on these pages. Cute and friendly, he guides you through your lessons: if you get stuck you can ask him for help, and when you come up with the right answer, he's there to congratulate you.

Each package consists of two disks. The main shell boots from the environment disk, which contains all the background to the system. This includes setting dates and names, recording scores and also holds all the tools that are needed to control use of the package.

The other disk is the application, which varies depending upon the subject to be studied and the age of the child. This is loaded into the environment and acts like an interactive text book, divided into various chapters. By clicking in various places on the display screen, the child can choose which exercises to try. Control is a mixture of keyboard and mouse throughout, and sometimes varies between the two rather inconsistently.

Along the top of the screen, ADI gives instructions, comments and help during play, while the bottom strip holds all the tools that are available. Sometimes these tools are blanked out if inappropriate, such as the calculator during a mental arithmetic exercise.

ADI sits in the top corner of the screen, pulling faces which range from anger to hilarity. In practice children tend not to notice these expressions as they are too wrapped up in the exercises or games.

ADI MATHS

AGES: 11/12 & 12/13 ● £25.99 EACH ● EUROPRESS SOFTWARE ● EUROPA HOUSE, ADLINGTON PARK, MACCLESFIELD, CHESHIRE, SK10 4NP

IN BRIEF: Both these maths packages are aimed at specific attainment targets in the National Curriculum. Whilst they are designed to at least partially cover all five targets, both concentrate on full coverage of number and algebra work. There is a considerable amount of overlap between the packages and our 11-13 year old testers sometimes found aspects of the pack for the younger group more difficult than those for the older group. This was partly due to the different teaching methods that they have encountered at three different schools. This is always a problem with question and answer style maths packages, as pupils are introduced to various topics under different titles and terminology, so they can have problems working out just what the questions are asking them to do. In addition to working out the answers, careful reading of the question is needed. Some frustration among the testers was evident at first when they understood what was wanted "sort of" but hadn't bothered to read the instructions properly.

The on-screen calculator proved a boon, although it caused its own difficulties as it sometimes covered up the question on screen. What a shame it couldn't have been made draggable. Another aspect which tended to halt the flow of thought was the inconsistency in entering and confirming answers.

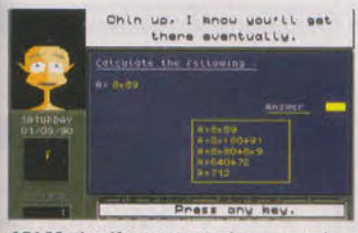
One significant plus point of the package is the on-screen text book which gives very basic tuition in the topics covered by the questions.

While it is not deep enough to help newcomers, the texts are very handy for quick reminders of formulae and notation.

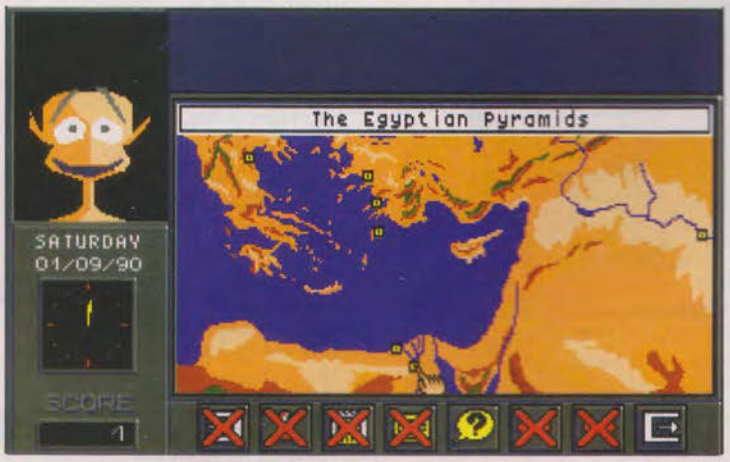
ST REVIEW COMMENT: "All three testers had to be turfed off the machine at the end of the session, which shows just how gripping and addictive the packages are.

This package is probably best used with small groups as the kids will need to help each other a good deal of the time."

✪✪✪✪



ADI Maths: if you get stuck on mental arithmetic, ADI will sometimes show you what to do.



Each application is like a book, divided into chapters. Here, choose one of the seven wonders for a maths exercise.

ADI ENGLISH

ATARI ST ESSENTIAL BUY ***AGES: 11/12 & 12/13 ● £25.99 EACH ● EUROPRESS SOFTWARE ● EUROPA HOUSE, ADLINGTON PARK, MACCLESFIELD, CHESHIRE, SK10 4NP***

IN BRIEF: The news recently has been full of reports about the apparently poor literary skills of our children. ***ADI English*** is an excellent answer for those who have problems with spelling and

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unctuation, and the two packs eviewed here are equally suitable or adults whose written work sn't quite up to scratch. Tuition s sparse, and it would be a good dea to have a dictionary on hand or many questions. My testers and myself found places on both packages where the question being asked wasn't particularly clear, and again the terminology employed by different schools and generations reared its head.

The way questions are phrased is sometimes rather more complex. Some topics, such as spelling, simply offer multiple-choice style questions, while those on grammar are more of a problem-solving exercise. The section on verbs produced long discussions among the testers as to what exactly a verb is. Confusion was quickly evident, in that the kids tended to associate "doing" words not only with the verbs themselves, but also the adjectives describing the doing.

As with the maths packages, careful reading of the instructions was needed to answer the questions correctly. Both packages overlap in content, but the 11/12 pack concentrates mostly on reading and spelling, while the 12/13 version also concentrates on writing. Comprehension is a vital component of both packages, and the ability to concentrate is vital. Younger children also found the English packs useful, and at times beat their older friends to the answer.

ST REVIEW COMMENT: "Both adults and younger children, as well as the targeted age group, will gain benefit from the continual exercising of the pitfalls of common spelling and grammar."

✪✪✪✪✪

FUN SCHOOL 3

AGES VARIOUS ● £24.99 ● EUROPRESS SOFTWARE ● EUROPA HOUSE, ADLINGTON PARK, MACCLESFIELD, CHESHIRE, SK10 4NP

IN BRIEF: Of all the ***Fun School*** versions, this is the best for matching activities to age group. Three packages are available, covering pre-school, infant and junior levels. Each pack consists of six games which deal with maths, English, logical thought and other subjects. The programs are presented via a menu, and even the youngest child rapidly learns their way around.

ST REVIEW COMMENT: "The packs for younger children have been well designed to facilitate use without too much parental attention. For pre-readers the instructions are so simple that the manual is barely required.

✪✪✪✪

FUN SCHOOL 4

AGES VARIOUS ● £24.99 ● EUROPRESS SOFTWARE ● EUROPA HOUSE, ADLINGTON PARK, MACCLESFIELD, CHESHIRE, SK10 4NP

IN BRIEF: Europress has attempted to jazz things up here compared to ***Fun School 3***, and has succeeded, but at a price. All three packages (each incorporating six activities) are nicely animated, but share a common flaw. The activities presented are far too hard for the recommended age-groups – eight to nine year-olds struggle with the top levels of the five to seven pack.However, if you go for a pack "younger" than your child you will find the ST is no longer your own.

ST REVIEW COMMENT: "Try this version in the shops with your child before you buy."

✪✪✪

PEPE'S GARDEN

AGES: PRE-SCHOOL/INFANT ● £25.99 ● PRISMA SOFTWARE ● 29 ST JAMES AVENUE, UPTON HEATH, CHESTER, CH2 1NB •

IN BRIEF: Based on the successful ***Fun School*** formula, ***Pepe's Garden*** offers a range of activities designed to give young children practice in a variety of basic skills. This game is most suitable for children who need to take their time while tackling exercises, as it plays so slowly that boredom sets in during pauses between rounds. This is another game to try out before you buy. It is competently presented, but many children will find the delays tedious.

ST REVIEW COMMENT: "This package is most suitable for pre-school kids as an introduction to the computer, while also having a solid educational theme."

✪✪

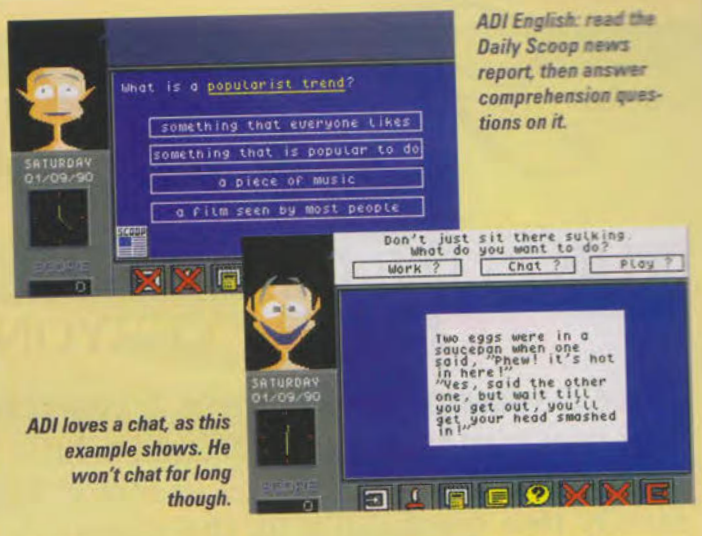
LET'S SPELL

AGES: INFANT ● £11.99 EACH PACK ● SOFT STUFF ● 19 QUARRY HILL ROAD, TONBRIDGE, KENT, TN9 2RN

IN BRIEF: The ***Let's Spell*** series covers a variety of topics including the home, shopping and out in the streets. There are French version available. Each package presents the child with a scene. Click with the mouse on an object on the scene and the child is then presented with a new screen showing the picture and the alphabet. Spelling is tested in this series, as well as the child's ability to recognise and name common objects, animals and so on.

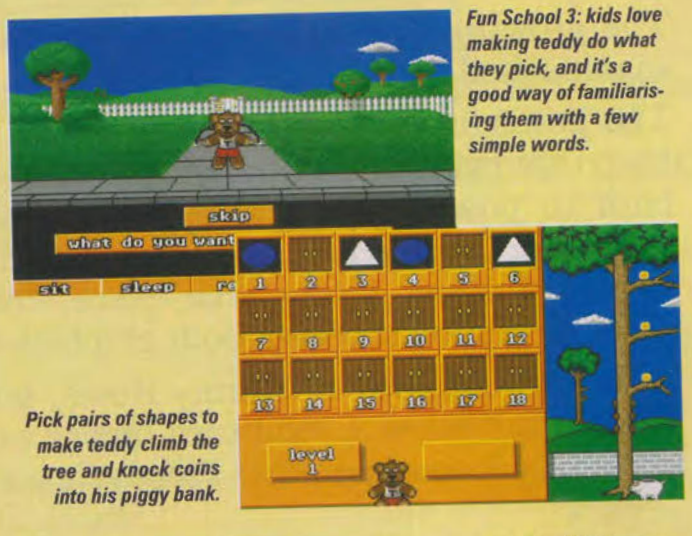
ST REVIEW COMMENT: "All our testers love this series and even the smallest children need very little supervision."

✪✪✪



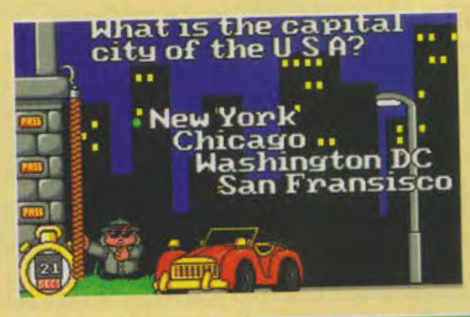
ADI English: read the Daily Scoop news report, then answer comprehension questions on it.

ADI loves a chat, as this example shows. He won't chat for long though.



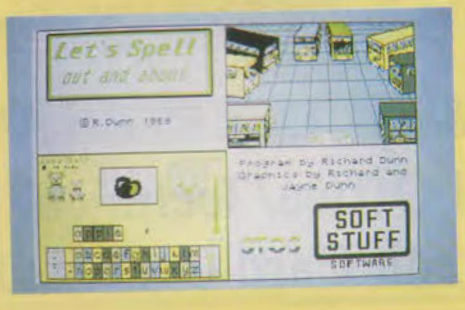
Fun School 3: kids love making teddy do what they pick, and it's a good way of familiarising them with a few simple words.

Pick pairs of shapes to make teddy climb the tree and knock coins into his piggy bank.



Fun School 4: Sammy the Spy has a tough set of questions to answer, and they get even tougher very quickly.

Pepe's Garden: not the most inspired graphics in the world, and I'm not too sure about the palette choice either.



Let's Spell offers a variety of topics to help your child with spelling.

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- *Citizen Prodot 9 - 9 pin - 80 column*
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SAVING: £76
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192 CPS — 80 COLUMN

- *Citizen Swift 9 - 9 pin - 80 column*
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SAVING: £113
SILICA PRICE: £189

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192 CPS — 136 COLUMN

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- *Colour Option Available*
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SAVING: £105
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- *1 x Font Cartridge Slot - for plug in 'Style' Fonts*
- *Parallel Interface*
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STARTER KIT .. £25
TOTAL VALUE: £394
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SILICA PRICE: £259

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24 PIN PRINTERS

192 CPS — 80 COLUMN

- *Citizen 224 - 24 pin - 80 column*
- *192cps Draft, 64cps LQ*
- *8K Printer Buffer + 4 Fonts*
- *Parallel Interface*
- *Graphics Resolution: 360 x 360dpi*
- *Epson and IBM Emulation*
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COLOUR KIT £38
SILICA STARTER KIT £25
TOTAL VALUE: £332
SAVING: £133
SILICA PRICE: £199

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192 CPS — 136 COLUMN

- *Citizen Swift 24x - 24 pin - 136 column*
- *192cps Draft, 64cps NLQ*
- *8K Printer Buffer + 4 Fonts*
- *Parallel Interface*
- *Graphics Resolution: 360 x 360dpi*
- *Epson, IBM and NEC P6 Emulation*
- *Colour Option Available*
- *FREE Silica Printer Starter Kit*

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SILICA STARTER KIT £25
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SILICA PRICE: £349

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INKJET PRINTER

360 CPS — 80 COLUMN

- *Citizen Projet - inkjet - 80 column*
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- *50 Nozzle Head - Whisper Quiet 47dB(A)*
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SILICA PRICE: £219

£219

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- 3½" Disk - Amiga & ST Drivers
- 3½" Disk - Driver for Windows 3
- 2 Metre Parallel Printer Cable
- 200 Sheets of Continuous Paper
- 100 Continuous Address Labels
- 5 Continuous Envelope

If you already own a printer and would like to buy a kit, you may order one (ref: KIT 5001) for £19.38 - £10 off RRP!

AMIGA PRINT MANAGER
WORTH £14.10

The Amiga Print Manager dramatically enhances printer output. Provides drivers for all Citizen printers and replaces Amiga's normal printer preferences system - printing is quicker, colours more vibrant, graphics less fuzzy. Easy to use with instructions. Features include:

- Improved Image Smoothing
- Gamma/Colour Correction
- Image Scaling
- Colour Separation
- Reduces/Eliminates Banding

The Amiga Print Manager is available free on request from Silica Systems with the Swift 9, 224 and 240 printers, or may be purchased (ref: ASC 4572) for £13.10 (RRP £14.10).

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SHEET FEEDERS

SERIAL INTERFACES

32K MEMORY EXPN

PRINTER STAND

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RIB 3948	Swift 9x Black	£7.15
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COLOUR KITS

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PN48 ACCESSORIES

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PRA 1162	PN48 Car Adaptor	£16.80

Accessories prices inc. VAT & delivery

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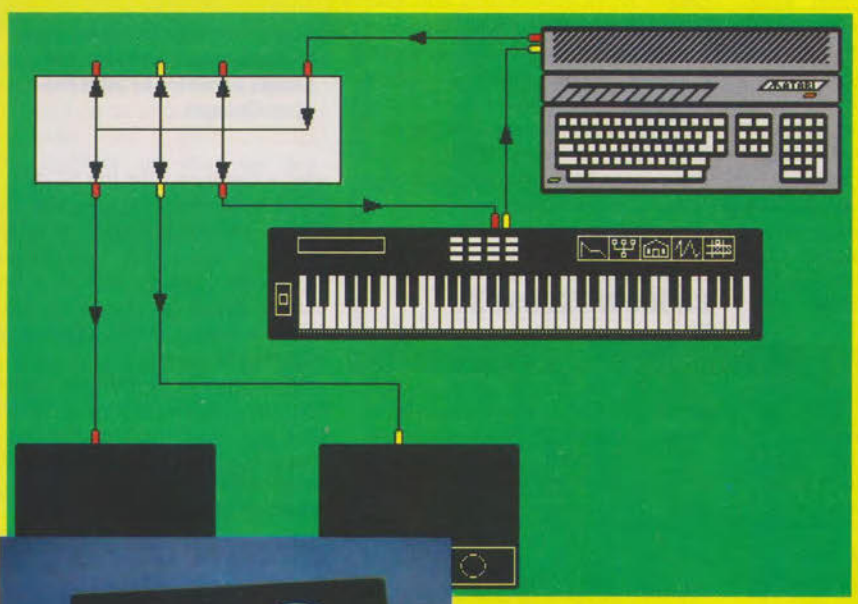
GOT A HAND-HELD?..THEN GO! AND GET THIS!

MIDI MONTHLY

The Yamaha TG100 sound module. Is this the one to buy? Find out on page 78.



Daisy chaining synths and keyboards for added flexibility, explained on page 82.

Patch Commander Plus, a useful little add-on, and only £79.99! Turn to page 80 for more information.

This month, MIDI Monthly takes a good long look at two Sound Modules, the Roland SC-155 and the Yamaha TG100. These neat little boxes, when added to an ST, a sequencing program and a keyboard, will enable you to create professional quality music. We explain what they are, what they do, how to use them and which one is best. See the review starting on page 78.

We continue the Building a MIDI System series on page 82. This time we look at what to do if your synth or sound modules do not have a MIDI through port. Also how to "daisy chain" your MIDI system for greater flexibility.

On page 83, our regular What is.. column looks at why most current synthesisers sound similar. We explain what is behind the actual creation of sound forms and what you can do to make them sound more like the original instruments.

Also on page 83, you will find a glossary of terms used in MIDI to help you get to grips with the language. Patch Commander Plus is one of those little extras that make life easier in the MIDI world. It can transmit MIDI program changes at the push of a button. Find out if it's worth the investment of £79.99 on page 80.

SOUNDS

If you've been following our Building a MIDI System series, you may be looking for a sound module. Here's a couple worth buying...

With your Atari ST, a sequencing program, a keyboard and a sound module, you can make music - fact. Most synths are now multi-timbral which means that they are the equivalent of having a number of individual sound generators in a single box. Each of these generators can play a different sound so you can have piano, bass, drums, strings, brass, sound effects and so on all coming from a single unit.

Towards the end of 1990, Roland launched their Sound Canvas, a high-quality multi-timbral synth with over 300 sounds on-board and many drum kits for the rhythm part. Also included was a small remote control unit from which various alterations can be made, such as changing the instruments for each part.

Roland, having been instrumental in the setting up of General MIDI, which was covered in issue five of ST Review, has now released various Sound Canvas derivatives including a computer module (CM-300), keyboard (JV-30), workstation (JW-50) and the SC-155, a Sound Canvas with knobs on - literally.

As for Yamaha, the PSS series of multi-timbral keyboards has been very popular, although a little non-standard in certain areas. The TG100 is Yamaha's first sound module to incorporate General MIDI, and manages this at a very affordable price.

The sounds on-board both are authentic - they are "samples", or digitised recordings of real instruments. For example, playing the acoustic piano immediately makes you realise that this is not a synthesised version. Now, down to the nitty-gritty...

ROLAND SOUND CANVAS SC-155

A very neat looking sound module this - none of the boring, grey, "place me out of sight" design here. In fact, the SC-155 is designed to sit on a table top and has various buttons and sliders which can be used to affect the mix in real time. For instance, the two on-board effects of reverb and chorus can be used in different amounts by any, or all, of the 16 possible simultaneous instruments and the amount can be altered by moving a slider up and down. This is far better than clicking on a button to increase or decrease the amount by one each time! The SC-155 can produce up to 24 "voices" at the same time and as up to two voices can be used per actual sound, between 12 and 24 notes can be played at once.

The SC-155 has some 317 sounds on-board which vary from solo instruments such as acoustic piano and violin through to sound effects like creaking door and applause!

A lot of thought has gone into the sounds. The designers obviously appreciated that some sounds need a little help to appear realistic and so have included guitar fret noise and string slap for use with the guitar sounds, and breath noise to enhance any solo wind instruments. Also included are nine drum kits with up to 61 different percussion sounds across the keyboard.

There's an excellent large display which shows information for the selected part including the volume, stereo pan position, amounts of reverb and chorus, and MIDI channel.

CHOOSING SOUNDS

There are three ways of selecting sounds on the SC-155. To the right of the display is a control panel; the Part buttons are used to select the part to be altered while the Instrument buttons move through all of the sounds, one at a time. A keyboard connected via the MIDI In can be played and the sounds heard as you scroll through them. The second way is to use the infra-red remote control which is provided as standard. The layout is exactly the same as the control panel, but can be operated a distance from the SC-155.

The best way is to use the nine sliders on the bottom half of the SC-155. Using the Inst(rument) Call button, the sounds for a part can be heard by moving a slider up and down while playing an attached keyboard.

Although the sounds are digitally recorded, you can edit certain facets of them such as the cutoff frequency, which changes the tone, and the way the sound swells in and decays away.

SLIDERS 'N' SOCKETS

The sliders have two other main uses; they can be used to change the levels and stereo pan positions of each instrument by pressing the relevant button. This MIDI

INSIDE INFO

General MIDI (GM) was mentioned in the last issue of ST Review. To try and make synths more compatible, the 128 basic sounds on a GM module are the same and are called up by the same MIDI Program Change numbers. For instance, Program Change number 1 will always call up acoustic piano #1. In a similar manner, the percussion sounds across the keyboard are also defined, and such a drum kit is always on MIDI channel 10.

Roland's GS format goes a little further than GM by having the secondary instruments assigned to banks. This then allows GS sound modules to go beyond the 128 sounds permitted by MIDI Program Changes.

"This is a user-friendly sound module: its use is simplified by the existence of sliders and lots of buttons"

NAME: SOUND CANVAS SC-155
COMPANY: ROLAND (UK) LTD
CONTACT: 0252 816181

PRICE: £599
RELEASE DATE: OUT NOW
MIN MEMORY: N/A

EASE OF USE	✪✪✪✪✪
DOCUMENTATION	✪✪✪✪✪
EFFECTIVENESS	✪✪✪✪✪
VALUE FOR MONEY	✪✪✪✪✪

OVERALL 88%

317 sounds and 9 drum kits
Two MIDI Ins allow for a keyboard and sequencer to be connected
Real time control of levels and stereo pan for each instrument
Infra-red remote controller as standard

PROS AND CONS

Between 12 and 24 notes to be shared between 16 possible instruments

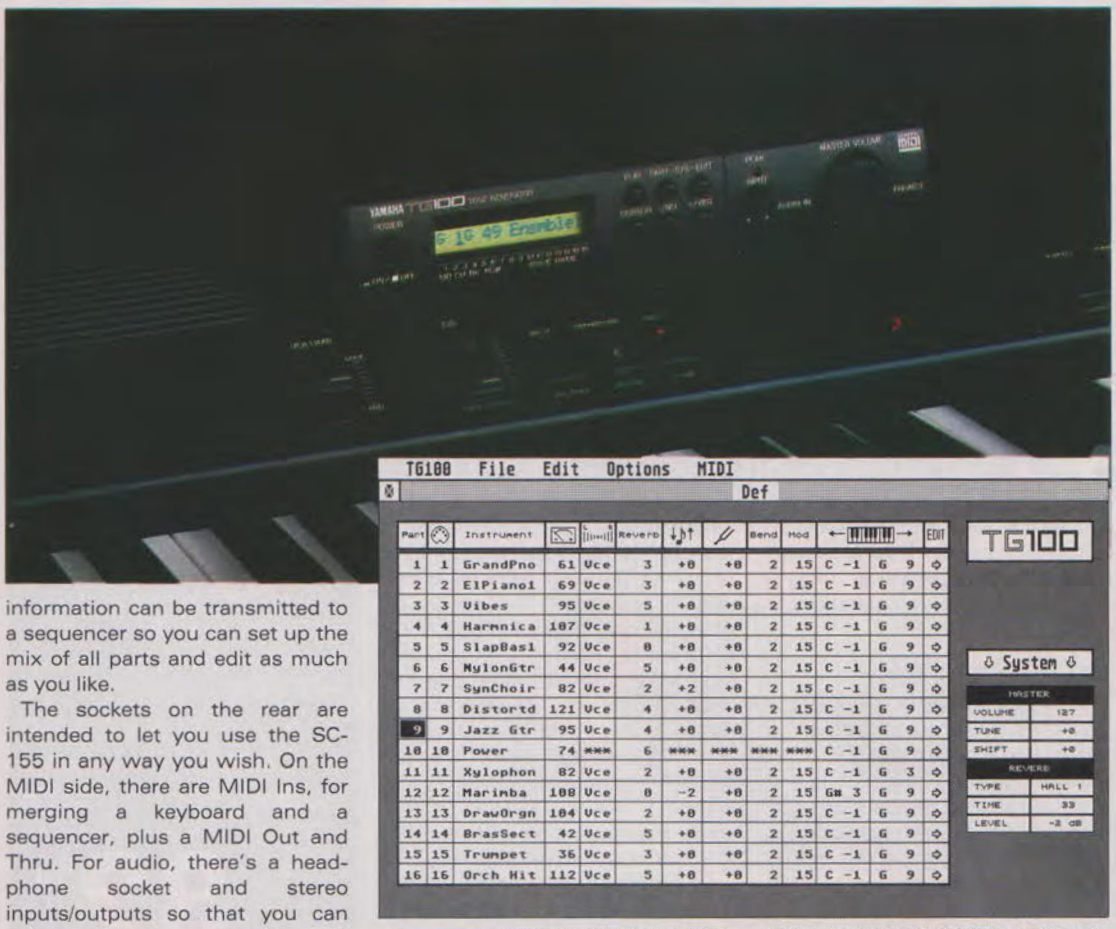
Sound Canvas has 127 pan positions and 317 sounds.

Canvas File Edit Options MIDI

- SOUND Canvas -

Part		Instrument			Reverb	Chorus			Mode	Bend	Mod					EDIT
1	1	Piano 1	93	L10	37	0	+0	+0	♪	2	10	C -1	G 9	4	⇳
2	2	E. Piano 2	71	R 1	77	0	+0	+0	♪	2	10	C -1	G 9	2	⇳
3	3	Harmonica	56	R 4	74	0	+0	+0	♪	2	10	C -1	G 9	1	⇳
4	4	Trumpet	102	« »	45	0	+0	+0	♪	2	10	C -1	G 9	1	⇳
5	5	Synth Brass1	115	L12	97	69	+0	+0	♪	2	10	C -1	G 9	2	⇳
6	6	Fantasia	41	R21	62	9	+0	+0	♪	2	10	C -1	G 9	2	⇳
7	7	Flute	102	L63	23	0	+0	+0	♪	2	10	C -1	G 9	1	⇳
8	8	Polysynth	98	R23	24	22	+0	+0	♪	2	10	C -1	G 9	3	⇳
9	9	Goblin	58	L 4	106	47	+0	+0	♪	2	10	C -1	G 9	2	⇳
10	10	TR 808 Set	74	« »	40	0	+0	+0	/	2	10	C -1	G 9	3	⇳
11	11	Echo Drops	54	R63	62	100	+0	+0	♪	2	10	C -1	G 9	1	⇳
12	12	12 Str Gtr	89	L11	76	0	+0	+0	♪	2	10	C -1	G 9	2	⇳
13	13	Gt Feedback	116	L 6	23	0	+0	+0	♪	2	10	C -1	G 9	0	⇳
14	14	Taisho Koto	84	R 4	57	0	+0	+0	♪	2	10	C -1	G 9	0	⇳
15	15	Laughing	124	R36	56	0	+0	+0	♪	2	10	C -1	G 9	0	⇳
16	16	Horse-gallop	77	L28	12	0	+0	+0	♪	2	10	C -1	G 9	0	⇳

GALORE!



Part		Instrument			Reverb			Bend	Mod				EDIT
1	1	GrandPno	61	Vce	3	+0	+0	2	15	C -1	G	9	
2	2	ElPiano1	69	Vce	3	+0	+0	2	15	C -1	G	9	
3	3	Vibes	95	Vce	5	+0	+0	2	15	C -1	G	9	
4	4	Harmnica	107	Vce	1	+0	+0	2	15	C -1	G	9	
5	5	SlapBas1	92	Vce	0	+0	+0	2	15	C -1	G	9	
6	6	NylonGtr	44	Vce	5	+0	+0	2	15	C -1	G	9	
7	7	SynChoir	82	Vce	2	+2	+0	2	15	C -1	G	9	
8	8	Distortd	121	Vce	4	+0	+0	2	15	C -1	G	9	
9	9	Jazz Gtr	95	Vce	4	+0	+0	2	15	C -1	G	9	
10	10	Power	74	***	6	***	***	***	***	C -1	G	9	
11	11	Xylophon	82	Vce	2	+0	+0	2	15	C -1	G	3	
12	12	Marimba	108	Vce	0	-2	+0	2	15	G# 3	G	9	
13	13	DrawOrgn	104	Vce	2	+0	+0	2	15	C -1	G	9	
14	14	BrasSect	42	Vce	5	+0	+0	2	15	C -1	G	9	
15	15	Trumpet	36	Vce	3	+0	+0	2	15	C -1	G	9	
16	16	Orch Hit	112	Vce	5	+0	+0	2	15	C -1	G	9	

Left: Yamaha's TG100. Below left: a screen shot from the Hands On TG100 editor which, along with the Sound Canvas editor, was written by Ofir Gal, a regular contributor to ST Review. As this is another General MIDI sound module, many of the parameters are the same as for the Canvas, although there are only 192 sounds available.

information can be transmitted to a sequencer so you can set up the mix of all parts and edit as much as you like.

The sockets on the rear are intended to let you use the SC-155 in any way you wish. On the MIDI side, there are MIDI Ins, for merging a keyboard and a sequencer, plus a MIDI Out and Thru. For audio, there's a headphone socket and stereo inputs/outputs so that you can mix together the audio from, say, a cassette deck or another MIDI sound module with the SC-155 and then output to, perhaps, a hi-fi amp and speakers.

YAMAHA TG100

Encased in a dark grey box, the TG100 has a small display which is used for two purposes; showing the levels of each part playing or the values of the characteristics for a particular part. There are three modes, namely General MIDI, Yamaha Disk Orchestra, for various Yamaha instruments, and C/M for compatibility with the Roland CM64 module.

The TG100 can play up to 16 instruments and handle a total of 28 notes concurrently, but the number of sounds available depends on the mode. However, there are 192 sounds in all, with an additional 10 drum kits.

BUTTON CONTROL

The display generally shows the mode, MIDI channel, voice bank, Program Change number and voice name. There are four voice banks; the first three follow the modes while the fourth is an internal bank where you can save edited sounds but which are lost when the TG100 is turned off.

Changes to figures on the display are carried out by using the Cursor button to move between items, and the -/No and +/Yes buttons to increase or decrease the values so that you can change sounds by clicking a single button while playing a keyboard to hear the sounds.

EFFECT 'N' EDITS

Eight types of reverb and delay allow you to enhance the overall sound of the TG100 quite significantly. From Concert Hall to Stereo Delay, you can select an effect and then decide how much is used for each of the 16 instruments. Let's say that you want a small amount of a Hall reverb on the strings, to make believe that they are near to you, but more reverb on the drums as if they were the other side of the hall. By changing the reverb level for each part, this is possible. In the same way, each instrument can be placed in a different stereo position. As with the SC-155, the rate of swell in and decay of each instrument can be altered.

Any editing that is carried out can be saved to the internal bank, but this clears each time you turn the TG100 off. Consequently, there is a facility to transmit all edits to a sequencer. You can then transmit all of the settings back to the TG100 and recreate the previous situation.

On the audio side, the stereo outputs are on the rear while a miniature stereo input is to be found on the front.

This, as with the SC-155, lets you mix music with the sounds being created in the TG100. The audio input on the front also has a rotary input level and a Peak light to warn you when distortion is about to happen.

CONCLUSION

Both units offer lots of sounds, effects, the ability to mix external audio and the compatibility of General MIDI.

While the TG100 is cheaper, the Sound Canvas SC-155 has both the infra-red remote controller and sliders for real time mixing.

It is also worth mentioning that Roland have recently brought out the Boss DS-330, another GS sound module with 156 sounds and eight drum kits for just £339.

"A comprehensive sound module which offers great value for money"

NAME: TG100
COMPANY: YAMAHA-KEMBLE LTD
CONTACT: 0908 366700

PRICE: £349
RELEASE DATE: OUT NOW
MIN MEMORY: N/A

EASE OF USE	✪✪✪✪✪
DOCUMENTATION	✪✪✪✪✪
EFFECTIVENESS	✪✪✪✪✪
VALUE FOR MONEY	✪✪✪✪✪

OVERALL 85%

192 sounds and 10 drum kits
Eight reverb and delay effects
28 notes available simultaneously

PROS AND CONS

Six buttons used for all functions

PATCH COMMANDER PLUS

Sometimes the little things in life have most to offer. Patch Commander Plus is a small package that makes a big difference

I've lost count of how often I've wished for a small gadget which could transmit MIDI Program Changes at the press of a button. One of the keyboard players who I work with live uses a keyboard that cannot transmit Patch Change commands, so I either have to carry out this operation from the sequencer, which I don't like to do live when it is running, or select the patch on the particular synth. Neither operation is a very good idea when you're working in half light on a stage. Similarly, there have been many times when a device has been needed to filter out various MIDI commands. While this function is usually offered on a computer sequencer, most of the occasions I can remember are those when a sequencer hasn't been used. For instance, many keyboards send out Program Change commands when you change from one setting to another which can cause havoc with connected synths.

Patch Commander Plus is a general purpose MIDI remote controller. It's a simple hand-held affair with a numeric keypad and a couple of extra keys (with * and # on the keys), a light to show that it's on and that certain functions are being carried out, and MIDI In and Out sockets. Patch Commander Plus is used to inject MIDI information into a MIDI system via commands sent from the numeric pad.

MIDI MESSAGES

The most obvious of these is the first scenario above. Mode 0 is the Patch Commander; set the MIDI channel via the * button and key in the three digit Program Change number. As this was the original purpose, it turns on in this mode, and remembers the last MIDI channel you set it to, along with eight memory locations where you can save your most-used patch numbers. Also included is access to the extra 128 sounds in Roland's E-35 and E-70 keyboards using MIDI Bank Select.

Mode 3 lets you send out predefined MIDI messages. You may want to send MIDI Start, Stop or Continue commands to a sequencer or drum machine, very useful if you're working live and want to temporarily halt a song. Other messages include All Notes Off, often most useful for silencing notes that have failed to turn off, and Modulation and Portamento on/off.

FANCY FILTERS

By placing Patch Commander Plus in-line from the MIDI Out of your keyboard, you can filter out certain MIDI messages before they reach your sound modules. Mode 1 deals with system messages such as MIDI Clock, Start, Stop and Continue, Active Sensing and System Exclusive. The latter is often transmitted when patches are selected on some synth keyboards. Mode 2 handles Channel messages such as Note On/Off, Channel and Polyphonic Aftertouch, Program Changes and Pitch Bend. Aftertouch is often transmitted when you hit the keys too hard, while patch changes are sent by some keyboards when you change patch.

USEFUL UTILITIES

Patch Commander Plus has various other useful utilities. Mode 4 can be set to transmit MIDI Clocks to synchronise a MIDI system while Mode 5 is a MIDI cable checker. Mode 6 flashes the light when MIDI data is received at the MIDI In and Mode 7 is similar to this, but only registers if the MIDI data being received is on the current MIDI channel. Mode 8 is the Panic Mode; entering this makes Patch Commander Plus transmit Note Off messages to all notes on all MIDI channels, useful if the hanging note you tried to get rid of by sending out an All Notes Off command is still droning on.

By entering the extended mode, various other powerful features are on offer including rechanneling of MIDI information, keyboard splitting, Program Change translation and MIDI Controller remapping.

You can even save all internal settings to a sequencer via System Exclusive.

There's a small jack socket for the optional DF1 remote pedal (£19.99), the uses of which depend on the mode. In Mode 0, it's used to step through patches on a synth while in Mode 3 it toggles between the on and off states for some of the functions. In Mode 4, the pedal sends out MIDI Start and Stop commands to go with the MIDI Clock messages. Patch Commander Plus includes a carrying pouch. It's a good utility for all MIDI users, especially those who work without sequencers.

Some of the functions described above are found only on expensive sequencing packages which are computer-based. Standalone sequencers often have only the most basic functions. Consequently, Patch Commander Plus can be very useful to live musicians who need facilities such as these but don't want to use a computer live.

Small size, easy to carry
Comprehensive MIDI functions
Can be invisibly placed in a MIDI system

PROS AND CONS

All functions accessed via just 12 buttons
No display

"Very useful gadget which allows you to control many facets of MIDI"

NAME: FT3 PATCH COMMANDER PLUS
COMPANY: BCK PRODUCTS
CONTACT: 0708 448799

PRICE: £79.99
RELEASE DATE: OUT NOW
MIN MEMORY: N/A

EASE OF USE	●●●●○
DOCUMENTATION	●●●●○
EFFECTIVENESS	●●●●●
VALUE FOR MONEY	●●●●○

OVERALL 82%

INSIDE INFO

Since MIDI first appeared on the scene, there has been an endless stream of MIDI gadgets. MIDI cable testers, MIDI port expanders, MIDI information viewers... the list is in fact practically endless.

The interesting thing about Patch Commander Plus is that it incorporates a variety of utilities which haven't cropped up before. There has been a handheld MIDI remote controller before from a company called Alesis, but this only transmitted Program Changes.

The most useful feature, to my mind, is the ability to inject specific MIDI commands into a MIDI system, such as Program Changes (on a selected MIDI channel), Bank Select commands (for those synths who recognise them) and the pre-defined messages.

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BUILDING A MIDI SYSTEM

What happens if your synth or sound modules don't have a MIDI Thru Port? Vic Lennard looks at little boxes. . .

Last month we considered what to do if the keyboard being used for MIDI was a master keyboard completely without sounds onboard. At the same time, we mentioned that the typical way to connect a MIDI system was via the aptly named "daisy chain" method where the MIDI Thru from one synth connects to the MIDI In of the next and so on. A look at figure 1 will show you why this is so called.

The keyboard part of the synth sends out MIDI information (notes, pitch bend and so on) which is recorded by the sequencer on the ST. The MIDI Out from the ST then transmits this MIDI information, which is received by the sound module part of the synth.

As a MIDI Thru is an exact duplicate of the information received at the MIDI In, the daisy chain idea works by ensuring that any MIDI data received is passed on to the next unit. Look at figure 2 to see this.

PROBLEM AREAS

However, there can be problems. If you were to look at a MIDI signal on an oscilloscope, you would see a "square" wave which is literally made up solely of horizontal and vertical lines. As a MIDI signal has to be decoded and re-encoded each time it passes from a MIDI In to the MIDI Thru on each sound module, the vertical lines start to slope. After passing through a number of units, the vertical lines will be sloping so much that the MIDI information they are supposed to represent will no longer be easily recognisable. This corruption of the MIDI signal leads to lost information; for instance, a MIDI Note On may lose its Note Off and so continue sounding indefinitely.

Many people have maintained that a MIDI daisy chain connection causes a delay in the MIDI signal, but this is not so. Each MIDI byte takes about a third of a millisecond to transfer - a MIDI Note On takes just less than one millisecond as it is made up from three bytes - while the slope of the vertical lines are likely to be less than a thirtieth of this. What is actually heard is the result of the data corruption.

Another disadvantage of using the daisy chain method is that all of the MIDI synths have to be turned on as MIDI sockets require power in order to work. If you only want to use the last synth in the chain, that is unfortunate - all of them must be turned on. In fact, there was no mention of a MIDI Thru socket in the original specification for MIDI 10 years ago. It was added as an afterthought.

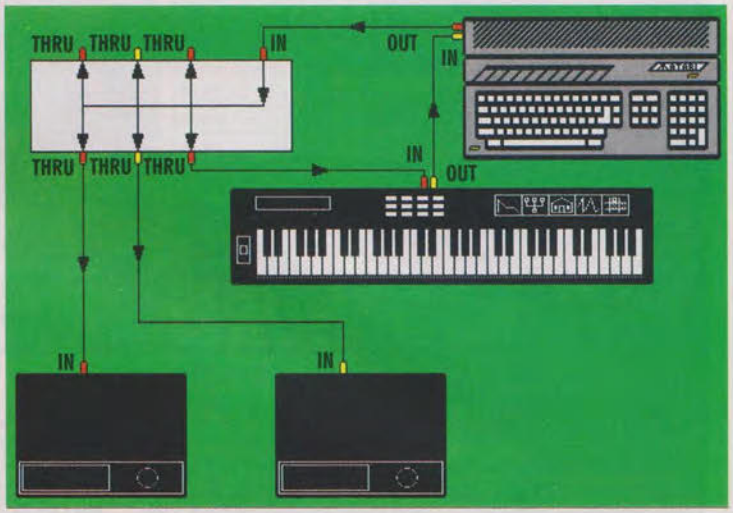

Figure 2: How a MIDI Thru functions on a synth.

USING A MIDI THRU BOX

There is an alternative, and a much better one. If a "star" system is used, the MIDI In of each synth is served from a direct copy of the original MIDI Out. Have a look at figure 3 to see the idea.

This time, the MIDI information recorded on the sequencer is sent out to a MIDI Thru box which consists of a single MIDI In and lots of MIDI Thrus. Each MIDI Thru is connected to the MIDI In of a different sound module, ensuring that each unit receives exactly the same information, not a third or fourth hand copy.

MIDI Thru boxes are pretty cheap. Philip Rees manufactures a battery-powered V3 (1 In, 3 Thrus - £14.95)) and a mains-operated V10 (1 In, 10 Thrus - £34.95). If you have more than a couple of MIDI devices, then a MIDI Thru box is well worth investing in.

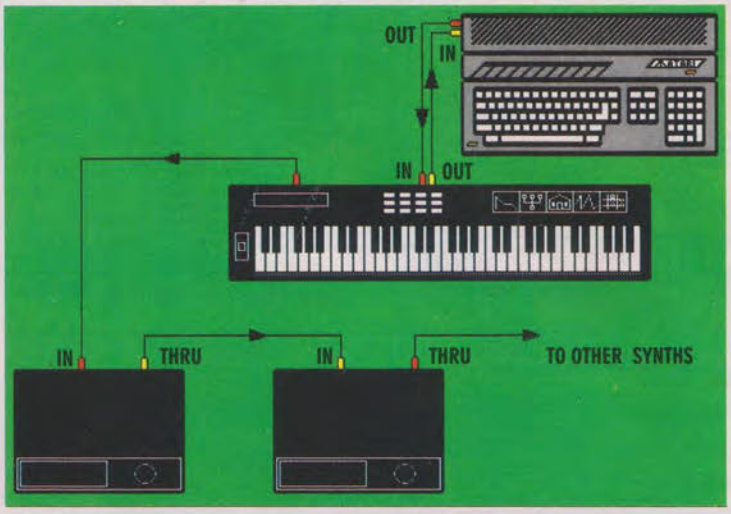

Figure 1: A typical "daisy chain" set-up where the MIDI Thru from one synth connects to the MIDI In of the next.

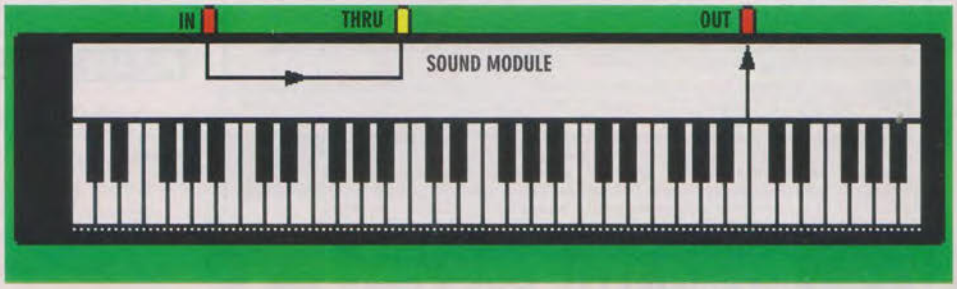

Figure 3: Using a MIDI Thru box means that the MIDI In of each synth gets an identical copy of the ST's MIDI Out.

Most current synths sound similar. MIDI Monthly investigates why...

WHAT IS BEHIND SOUND CREATION?

Last month, MIDI Monthly looked at General MIDI, but there was no mention of how sounds are actually created. In fact, General MIDI allows manufacturers to do their own "thing" which means that while Program Change #1 will always call up an Acoustic Piano, the actual sound of the piano is likely to be different from one sound module to another.

When the word "synthesis" is mentioned, most technical people immediately start talking about oscillators, filters and voltage controlled amplifiers. While these are the building blocks, modern day synthesis techniques often use samples. If you plug a microphone into a tape recorder, you can record any sound you can hear. How good the sounds are will be down to the quality of the microphone and of the tape recorder that you use. Modern day synthesis "digitises" sound; it converts a sound into a stream of numbers which can be decoded to recreate the original sound. So playing a piano sound on a Roland Sound Canvas or a Yamaha TG-100 will sound like a real piano because the sound of a real piano is effectively stored inside the synth.

NOT A SIMPLE SAMPLE

However, life isn't quite that easy. Imagine recording the middle C on a piano and then speeding it up to make it sound higher in pitch. You'll find that the timbre quality sounds wrong. While you could speed it up, or slow it down, by a small amount, radical changes adversely affect the sound quality. This means that you have to record the piano at various different notes along the keyboard and then speed up or slow down these samples to fill the gaps.

AT 'C' TOO LONG

If you press the middle C on a piano and hold it while the note decays away, how long does it take until the sound disappears – 15 seconds? 30 seconds? This is too long for a synth to handle – the longer the sound, the more memory the synth needs and the higher the price that you will have to pay. One possibility is to "loop" the sample which is where a small part of the sound is used again and again to create the aural illusion of a continuous sound. Roland's U-110, U-220, Sound Canvas and its offshoots (including the CM-300) are all of this nature, as is Yamaha's TG-100.

Another possibility is to just use a snippet of a sample for the beginning of a sound and then to use a digitally-synthesised sound with a similar quality for the remainder of it.

It is often the start of a sound which tells us what that sound is. Examples of this are Roland's D-110 and D-50, Yamaha's SY series, Kawai K1 and Korg M1.

The next time that you find yourself in a music shop, have a close listen to any of the above synths and marvel at the wonders of modern day science!

MODEST MIDI

Having problems with the language of MIDI? Our glossary should help you. . .

AFTERTOUCH:
Extra pressure brought to bear on the key of a keyboard after it has been initially played. Used to control certain MIDI effects such as modulation or pitchbend. Often referred to simply as "pressure".

CLOCK:
MIDI Clock is used to make two sequencers, or a sequencer and a drum machine, run in time with each other. They are then said to be "synchronised".

CONTROLLERS:
MIDI Controllers can alter the performance of a MIDI synth. For example, Modulation (Controller #1) can add a "warble" to sounds, Volume (#7) will affect the level of the sound and Sustain Pedal (#64) acts like the damper pedal on a piano. Each different Controller has its own unique number.

MIDI:
Acronym for the Musical Instrument Digital Interface. Created by American and Japanese manufacturers in 1982.

MULTI-TIMBRAL:
Literally meaning "many sounds", a multi-timbral synth plays more than one sound by responding to information on more than one MIDI channel. For example, piano might be on MIDI channel 1, bass on MIDI channel 2 and drums on MIDI channel 10.

NOTES:
In MIDI, all notes are numbered between 0 and 127 which gives a total range of over ten and a half octaves. Should be big enough for most keyboards (especially as a standard piano only has 88 keys).

PITCH BEND:
This term literally means bending the pitch of a note once it has been played.

Most synths have a pitch bend wheel to allow you to have direct control of pitch bend during a performance.

PROGRAM CHANGES:
These are usually transmitted from a computer to a synth to select a specific sound.

You could call this "sound change"; the ST sends a message to a sound module telling it to go to a certain sound.

STANDARD MIDI FILE:
Commonly known as a MIDI File, this allows you to create a song on one sequencer, save it and load it into a different sequencer. You can even move song files between several different computers.

START, STOP & CONTINUE:
When two sequencers are synchronised, one of them is the Master while the other is a slave. The Master sends out MIDI Start and Stop commands to control the slave, and uses MIDI Clocks to keep the slave running in time. If a temporary pause is required, a MIDI Continue command is used.

VELOCITY:
A MIDI Note has a velocity which is a measure of how fast your finger has pressed the key on a keyboard – the faster or sharper you press, the higher the velocity value.

It's often used by synths to change a sound's volume, but may also be used to change the tone; for instance, a high velocity could be used to make a piano sound brighter.

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Spectrum Holobyte's flight sim set the standard, but how will these data disks fare?

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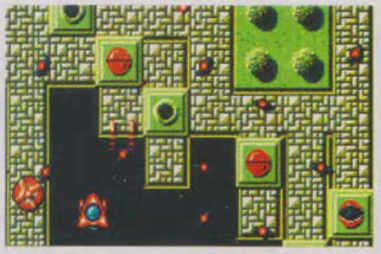
Total Recall



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CHAMPIONSH

It has often been said that there are only seven different game styles available to the developer. Steve Merrett pulls on his Shell Suit as he takes a look at the latest addition to possibly the oldest genre of them all...

I don't particularly think that I'm old, but it has to be said that it's a little disconcerting when a 23-year-old game reviewer fondly recalls events way back in 1982 – after all, it's not as if I'm recalling The Beatles or something, is it? Anyway, way back in 1982, armed with my brand new 48K rubber-keyed Spectrum and a stash of ***Centipede***, ***Galaxians*** and ***PacMan*** clones, I broke the habit of a lifetime and ordered what was billed to be 'The Ultimate Football Game' from a new, modestly-named company called Addictive Games. According to their advert, Addictive claimed that the bearded genius of one Kevin Tomms (whose beaming visage appeared at the top of the page - presumably grateful of my cheque for £5.95) had managed to cram every aspect of soccer management into one game – the now-legendary ***Football Manager***. And, to be fair, it has to be said that their claims were true. Although written in ***BASIC*** and featuring some very ropey sprites, there was genuine fun to be had from selecting your team and watching them play out your tactics as you viewed the match on your screen. Oddly enough, though, for over three years, nobody else bothered trying to beat Mr. Tomm's classic, but all of a sudden there has been a management revival, with the likes of U.S. Gold, D&H Games and now Domark, all trying to advance the genre over the past six months.

Simple but comprehensive menu system
Number of teams guarantees longevity
Excellent player transfer system

PROS AND CONS

No arcade sequence for matches

However, with such a simple task set out to the player – select your team and eventually win as many trophies as possible – just how much further can this particular genre advance?

PROGRAM TACTICS

Like the rest of the 'management' experts, Domark's answer is to incorporate as many different aspects of the 'funny old game' as possible, so whereas, say, Anco's ***Player Manager*** succeeded with the addition of tactics which actually had an effect on your squad's on-field performance, Domark has added the likes of suspensions, sackings, injuries, and contracts – you can even haggle over the prices of would-be signings. It has to be said that, having played with ***Championship Manager***, I can't really say that the life of a Soccer manager really appeals to me - and the game lets you off lightly compared to the real thing. Whilst poor performance is noted by the game's weekly update of press clipping, I'm just glad that it

All your necessary options are available from the main menu screen. From here, you can view details on any of the opposition, and keep a check on the league tables and any forthcoming jobs.

Money makes the world go around, and your performance as manager directly affects the club's income. If you lose several games, attendances will fall and the board will be on your back.

The programmers have included details on every player – and with over 80 teams, that's a lot of data. From here, extra details on possible signings can be found.

didn't give me the grilling that Graham 'Turnip' Taylor got from the tabloids for cocking up our European Championship chances!

MENU MASTERY

Considering that there is so much to do in ***Championship Manager***, the menu system that the programmers have opted for makes everything extremely simple to access. Everything is accessed via a series of mouse-operated menus which, when they are selected, reveal the options available to you.

In addition, as far as your ST set-up is concerned, the programmers have gone out on a limb to make the game utilise whatever kit you have to hand, and listings of league tables and results can be printed out if you so wish.

On loading, up to four players can opt to enter the managerial arena and they are then invited to enter their name and a blank disk so that the relevant fixtures can be saved for later use. Once this is done, the main menu screen unfolds its options which include all the relevant fixtures, tables and club details you'll continually need to peruse, whilst also allowing you to hunt for a new job, keep an eye on the national squad - and even alter the backdrop if you feel the need! As mentioned, these open up further screens, such as a full quota of league tables in the 'Tables' menu (logical, really), not to mention your position when compared to other managers.

OK, so such tables are nothing new and countless other managerial games have featured them, but the self-confessed programming team of Paul and Oliver Collyer have somehow managed to cram in over 1500 player details, 650 managers, and other such Footy-related details.

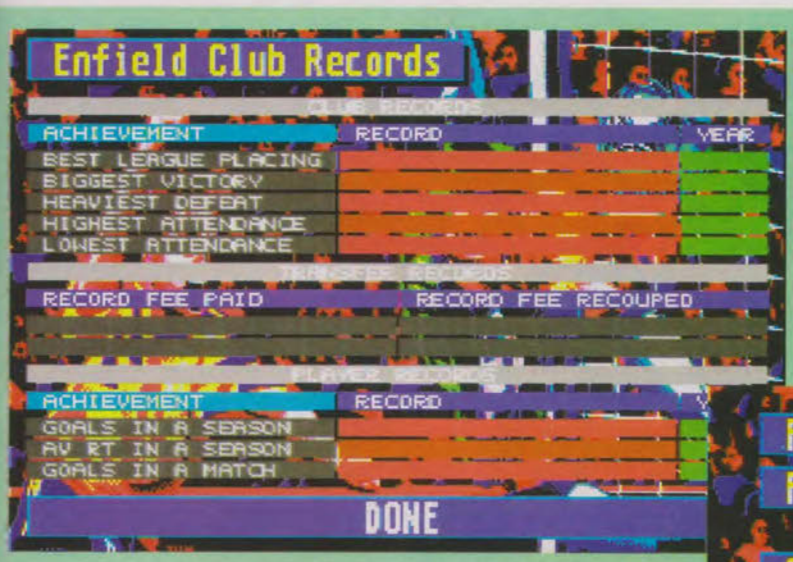
BUY, BUY...

In your quest for league dominance, you must ensure that every aspect of your team is catered for, and consequently the detail surrounding the many options available is nothing short of incredible.

I CAN MANAGE

A continuing trend in 'real' Soccer, is for ex-players to don the sheepskin coat of the managerial mantle. Numerous ex-pros - Kevin Keegan, Kenny Dalglish, Terry Venables, and Andy Gray - have all risen to the challenge, and, it has to be said, with considerable success. Arguably two of Britain's greatest managers, Kenny Dalglish and Graeme Souness, have taken on the helm of Blackburn and Liverpool respectively, and both claim that they picked up everything they know from Anfield's legendary Bob Paisley. In addition, experts claim that ex-players make better managers than, say, coaches, because they understand the way a player works and have a better grip on team work and tactical play. This way, they can concentrate on the real processes of Football, whilst the Directors fret about the finances...

IP MANAGER



Other details, such as a team's performance in the assorted cups and their most expensive signing, can be scored at your leisure and, whilst it's not essential to play, makes a rather neat Footy database.

There are no edited highlights of Player Manager-style action scenes in Championship Manager. Instead, the action is unveiled via a series of bar charts which detail your team's performance in both defence and on the attack, and keep you posted of any fouls or bookings.

From the tactics screen you can mould your team. Everything is controlled via a series of icons and players can be positioned in a number of defensive or offensive formations.

For instance, not only can you view the details of your squad, but their current state of health, happiness, and grace are displayed too. From here, you can then weed out any dead wood or unsettled players and make a team from what's left or, using the icons which also grace the screen, you can enter the transfer market and try to tempt Gazza to your fourth division strugglers. As displayed by Blackburn Rovers since Kenny Dalglish took over the reigns, splashing out heaps of dosh is one way to create the ultimate side. However, your funds won't stretch to creating a team of Wunderkind warriors like Kenny's, so you must stick within the cash allocation that the board allow you. However, with cash in hand, you can approach one of the players on your short list (created by selecting the rather handy 'Player Search' option) by entering the transfer market. Then, providing that the player is willing to join your team, the amount has been finalised, and none of the other clubs have gazumped you, the transfer is over – but there are still the wages and insurance again damage to be sorted. Finally, even the backroom boys, such as your coach and your physio can be swapped or fired – adding a further element to your already stacked duties.

DRESSING UP

With your elite team of players now available to you, the actual grass roots of Soccer management comes into play as you prepare for the match. The most basic area to cover, is the positioning of each player. This follows a fairly basic angle – as is often the case with such games – and basically involves ensuring that all your best defenders are in the best defensive positions, and not doubling up as attackers and forwards. So, having allocated the correct shirt to the relevant player, you must then select a team Captain, and your required tactics.

The latter actually sounds like an after-thought, but full details on your opposition can be viewed, and from these you can learn whether they are a predominantly defensive team or if they prefer to go for an all-out attack, and adjust your team's style accordingly.

MATCH OF THE DAY

Instead of viewing your team's on-screen performance as you do in, say, Krisalis's Graham Taylor licence, ***Championship Manager*** instead shows a series of statistics relating to the on-field goings-on. It has to be said, though, that, whilst these don't exactly make for stunning viewing, they still get the 'edgy' feel of hopelessness that I expect Brian Clough and Co. suffer from. Shown on this screen are the venue, the style of game (whether it's a cup game, for instance), the score, and assorted bars regarding your strength in attacking and defensive.

The latter is depicted as a series of six bar chart-style 'pipes', and these rise and fall as your players successfully punt the ball up-field or save your 'Goalie from embarrassment. In addition, should a player be booked or fouled, this will also be displayed - and if it all gets too much for you, then pressing the spacebar will speed the action up and save you from watching the entire match - but, don't worry! The board will also ensure that you don't have to do it all over again!

If things are going particularly badly, or if a player receives an injury, players

NEXT!

Over the last couple of months, the ST has seen the arrival of countless Soccer and Management sims. The most notable, though, are still that perennial favourite, ***Kick Off II***, and Renegade's new kid on the block, ***Sensible Soccer***. The managerial side has also been extremely busy, with Krisalis being up the official Graham Turnip... sorry, Taylor licence, and U.S. Gold releasing Software 2000's imaginatively titled ***The Manager***. Sadly, within this flurry of activity, probably the most eagerly-awaited Soccer game ever will NOT be appearing on the ST. The game is, of course, Anco's ***Kick Off III***.

Written once again by Dino Dini, ***Kick Off III*** will only be available for the Amiga and consoles (although it will also be Anco's last entry to the Amiga market). Featuring both vertically and horizontally-scrolling pitches, a number of sprite sizes and a slightly new off-kilter viewpoint. It also has to be said that it is looking rather good. So, come on Anco, do us a favour and get Dino working on an ST version – you know it makes sense...

Clicking on 'Tactical move' whilst during a game opens a further menu screen which allows you to alter the way your squad is playing. Thus, if you are 2-0 up, if you switch to a defensive pattern, then you can be fairly sure of keeping the advantage.

After the game each player is given a rating from 1-10, so you can see who is pulling their weight. Any injuries are also listed, as are a list of percentages relating to your team's dominance on the pitch.

can be substituted at any time during the match. A further menu will appear, and from it you can swap the crocked player with a fresh pair of legs from the bench.

FULL TIME

When the agony is over and the full 90 minutes have been played, yet another screen full of related statistics will appear. This allows you to view your team and also gives them a personal rating out of 10. From this, you can then gauge who deserves to play in the next match, or who may be playing out of position and could be stronger elsewhere. In addition, further details, such as injuries and sending offs, are also marked, the latter of which must be kept in check. Errant players can be fined by a disgruntled manager if they so wish, but care must be taken not to unsettle them. However, if a player commits too many punishable acts, the governing Soccer bodies may decide to suspend them for a couple of games so they can't be selected.

Finally, at the bottom of the screen are the numbers of spectators attending the match and ultimately paying your wages and providing a revenue with which to buy new players. If you play badly they'll stay at home and the club's coffers will suffer. There's also a series of percentage ratings which cover both teams' dominance in the defensive, midfield and attacking areas – the numbers of shots at goal is also listed here, too.

AFTERMATCH DE-BRIEFING

Soccer management games are normally much of a muchness. After all, there's only so much information that can be incorporated before it all starts to get confusing and, eventually, tiresome. Having said that, though, I think that Domark have got the balance just about right. The programmers are self-confessed Footy nuts, and it certainly shows in the game's content – every aspect of the game (even the backroom boys and scouts) has been considered and added, creating one of the best all-round sims I have played. Admittedly, I am not normally a fan of such games, and with the exception of Anco's brilliant ***Player Manager***, the recent additions to the genre have done nothing to change my view.

I would have perhaps liked to have had a little more to see during the match sequences, and although the statistics which appear as the minutes tick by do detail enough to cause unrest as your team goes one down, there's nothing quite like seeing the action on screen - if only to break the monotony of all those menus.

Still, this is a very minor quirk, and one that is easily lost in ***Championship Manager***'s many plus points. In terms of all-round content, ***Championship Manager*** is streets ahead of the rest, but I can't help but think that with Anco's ***Player Manager II*** currently on the drawing board, that its reign may be a little short-lived. Until then, though, this will keep most budding Graham Taylor's more than busy.

"A big league game that covers all aspects of football management"

NAME: CHAMPIONSHIP MANAGER
COMPANY: DOMARK
CONTACT: 081 780 2222

PRICE: £24.99
RELEASE DATE: OUT NOW
MIN MEMORY: 1 MEG

GRAPHICS	●●●●○
SOUND	●●●○○
VALUE FOR MONEY	●●●●○
PLAYABILITY	●●●●○

OVERALL 84%

STEP BY STEP

1 *Buying new blood for your team is essential, but is a fairly long and complex system. Using the game's 'search' option, a short list of players currently on the market can be found.*

2 *Following this, you can now access the transfer list and enter the factfile on each player. Clicking on 'Buy' will approach the wanted player, and his current team will decide if they want to sell him. However, other bidders can appear to gazump you, so be careful.*

3 *From here, personal financial details regarding the fee and the requests of the player must be determined. After this, though, it should be plain sailing and the player should sign along the dotted line.*

FALCON
MISSION DISKS 1 AND 2

For a measly tenner Paul Presley takes the good fight a stage further with Falcon's mission disks. And you thought cheap flights were only available on airliners!

The most popular flight simulator of the '80s was Spectrum Holobyte's ***Falcon*** – it set the standards for both graphic quality and gameplay and can still fly with the best of them today. When it was first released, players were suddenly introduced to solid, contoured polygons and detailed vehicles, super-smooth 3D and the most comprehensive depiction of an F-16 ever seen.

Its main problems were that it only had 12 missions and a limited battlefield to fly around in: once you'd mastered the opposing MiGs and turned every non-moving object into dust, there was little to do, unlike other simulations that had unlimited missions and different scenarios. To combat this, Spectrum Holobyte released the ***Falcon*** Mission Disks, which increased the longevity of the game and tried to improve things along the way. Things like the graphics (achieved by adding more complex objects such as helicopters) and the atmosphere (by chaining the missions together to create an ongoing campaign directly related to the player's actions).

Now the whole caboodle – ***Falcon*** and both Mission Disks – have been re-released by Digital Integration on the Action 16 budget label at affordable prices. This would be great if not for one thing. In its haste to slice down production costs, DI has transferred the original game onto just one double-sided disk. Unfortunately, it hasn't accounted for the fact that the Mission Disks still used the "Insert disk 2" prompt and therefore won't read the single disk correctly. So unless you own the original two-disk ***Falcon***, you're effectively restricted from loading anything. For the rest of this review we're basing our observations on the original full-price versions and we would suggest contacting DI for any technical problems on loading the games.

Destroying bridges is a useful way of cutting off supplies or stopping attacks.

BUT APART FROM THAT

Each mission is part of a continuing battle – if you blow up a bridge and stop a platoon of tanks from crossing, your base won't come under attack requiring you to defend it. It's a nice idea in theory, but unfortunately it doesn't mean much in practice. Each mission still feels like an isolated venture, but it is nice to see a previous target still in ruins as you fly past it on the way to another.

Each disk adds plenty of new features to the game, such as new weapons, different vehicles to blow up (including amphibious landing craft) and a more powerful enemy with newer equipment. At the time of the packs' original releases this would have been quite something, once again pushing ***Falcon*** ahead. Nowadays these packs help it catch up with the bigger sims.

Falcon's biggest strength has always been its easy to learn and responsive controls. When a game increases the complexity of the graphics it tends to result in everything slowing down somewhat. Even with the Mission Disks the core of the game is exactly the same as before – smooth, playable, exciting and atmospheric.

It's not often you that can call a flight simulator atmospheric, but thanks to the linked scenarios and the sheer enjoyment of the product, ***Falcon*** manages to conjure up a good degree of tension and ambience. These, sadly, only last for as long as it takes to complete all 24 missions (no easy task): once the campaign is won there's little urge to return, even to try them at a higher level. This is possibly the only negative point about the two packs, but when you're only paying a tenner for them it adds up to pretty good value.

Taking into account the technical problems with the disks, ***Falcon*** is still a superb flight simulator able to hold its head up with the best of today's games and in some cases (thanks to the fact that the graphics and feel of the game still manage to shine) outplay some of today's sims. And at the budget price it's really not a problem deciding whether you should fork out for them.

The mighty Falcon sits at the end of the runway waiting to take to the skies and do battle.

"A technical shambles but a great game"

NAME: FALCON MISSION DISKS 1 & 2
COMPANY: DIGITAL INTEGRATION
CONTACT: 0276 684959

PRICE: £9.99 for each disk
RELEASE DATE: OUT NOW
MIN MEMORY: 0.5 MB

GRAPHICS	○○○○○
SOUND	○○✪✪✪
VALUE FOR MONEY	○○○○○
PLAYABILITY	○○○○✪

OVERALL 78%

Excellent graphics... still
Exciting atmosphere
Simple but comprehensive controls

PROS AND CONS

Great difficulty with loading
Limited mission variety
No urge to return once finished

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Road racing games have always been extremely popular, both as original games and as coin-op conversions. Alan "Burnt Rubber" Dykes checks out the pace of Titus' latest Crazy Cars offering...

The Lamborghini Diablo – phew, what a car. You start off with a four speed gearbox but can upgrade to five once you have the requisite cash.

CRAZY CARS 3

Competing in Memphis where the professional drivers are Brett, Hagar and Kurt. You can bet with them on the outcome of the race. All relevant race information is displayed in this panel.

Dontcha just love racing against that good old New York skyline! There are 15 locations in all to get through, and four levels of expertise for you to work your way through.

Through the years thousands of hopefuls have moved to the United States seeking fame and fortune – most settled down to a life of cable TV, middle class mediocrity and shouting at each other in ludicrous accents. Others chose a life of crime, of living on the edge. In ***Crazy Cars 3*** you fall into the second category... just.

You've moved to the States as a skilled car racing trainer but can't (or won't) find any work. Since washing dishes is neither your forte nor very financially rewarding, you enter the shady world of Saturday Night Road Racing to make a few quick bucks. Although you arrived stateside with no wheels, an old friend suddenly appears on the scene selling his Lamborghini Diablo at a bargain basement price. Now's the time to prove yourself. Remember though, road racing may be a very lucrative business, but it's also highly dangerous – and illegal.

POLICE STATE

Although your yellow Diablo is fast, you're up against some of the most skilled and ruthless road racers in the world as well as a plethora of awkward amateurs and various other traffic obstacles. Also, because you are plying your skills on public highways there are certain other road users to avoid, namely the police.

The US speed limit is 110 Km/h and the main device state police use to counter speeders is traffic radar, either on the roadside or in their highway patrol cars. You'll need a radar detector to provide warning of police danger, but even this usually only gives you just enough time to slow down. If you go past the cops above the speed limit they'll inevitably intercept you, impose a fine, or try to ram your yellow dream machine off the road – and then you're back to square one.

In later stages they also use "radar cameras" which are remotely controlled and result in an automatic fine, the amount depending on the speed at which you were travelling when detected.

Crazy Cars 3 starts off with an options screen, allowing you to enter races in any one of four divisions. As a beginner you start off in division

Four difficulty levels
Nice gambling option
Plenty of action in later races

PROS AND CONS

Too much like so many other games
No long-term addictiveness

No car will run properly unless it's kept in a good state of repair. Repairs cost $100 per block.

Oh no, the shame of it! Just lost a race and lots of money. Shame about the car, it was a real beauty.

The betting screen. Place your bets if you think you're good enough to win.

Our girl, Killer has won. The prize money is £5000 and if we've bet any money on the race this could be a nice little earner.

four and progress by winning races and qualifying for the higher divisions. However, when you're competing in the top three your competitors get even nastier and more vindictive, and police speed traps get more complicated.

HIGHWAYS TO HELL

There are 15 races to enter at each skill level in ***Crazy Cars 3*** and these are littered on highways throughout the continental USA. Each race zone, identified by its nearest city, is marked by a star. Moving the cursor to each star will reveal all relevant race information including the cost of entering, the prize haul for winning, the type of weather expected, whether the other participants are professional or amateur and if there are police.

Because you have to pay a fee to enter the race you can't just enter whichever one you feel like - you have to earn the right to compete by earning cash in lesser races. Although this is a nice feature in theory, it actually creates a problem in practice.

When I loaded the game I was reasonably impressed with the overall layout, menus and options. However, when I started playing, this quickly turned into disappointment. Control procedures are fairly standard on racing games (left, right, accelerate, gears) and ***Crazy Cars 3*** is no exception - so the first few highways, which have little notable opposition and no cops, make the game seem bland and featureless. It's only after you've won a few races that the game becomes enjoyable.

Good racing games have become quite commonplace over the last few years, so the genre is now beginning to look a bit worn out.

It pays to have a lot happening on screen, making the game fast-paced and relatively difficult, and taking your mind off any similarities between what you're playing now and what you've played before. But unfortunately ***Crazy Cars 3*** only gets exciting after you've played it for some time, so it demands the sort of dogged perseverance that Nigel Mansell has to get the best out of it.

Once you really get into the swing of things and can afford to upgrade the Lamborghini's spec - to make it go faster, stop quicker, grip harder and jam radar amongst other things - you'll really begin to enjoy the game. Don't forget though, that as you progress, so will your professional opponents, making each race harder and more frantic.

BIT OF A GAMBLE

Once you win a few races you'll have the opportunity to compete against professional opponents.

AFFORDABLE RISKS

Also, because you've got some disposable income in the bank you can afford to take a few risks, ie. gamble a bit. If you're confident that you'll win a race then why not put a few thousand dollars on the outcome. It's the only way to make real cash, more than you will from straight race winnings. As soon as you win a bet, buy some new equipment for your car with the proceeds, making sure, of course, that you have enough money left to enter the next race, and some for another bet.

"Won't set your ST on fire but will greatly appease genre aficionados"

NAME: CRAZY CARS
COMPANY: TITUS
CONTACT: 071 278 0751

PRICE: £25.99
RELEASE DATE: NOW
MIN MEMORY: 0.5 MB

GRAPHICS	✪✪✪✪✪
SOUND	✪✪✪✪✪
VALUE FOR MONEY	✪✪✪✪✪
PLAYABILITY	✪✪✪✪✪

OVERALL 79%

Crazy Cars 3 has interesting sound effects and good, colourful graphics with smooth scrolling. As you upgrade to different competitions and equipment levels the game can get furiously fast and gameplay improves tenfold. So don't be put off by initial impressions of slowness or simplicity. That said, ***Crazy Cars 3*** won't set the world on fire.

We've seen much of this type of game before (and a lot of those is now available on budget labels).

Although it has lots of options and lastability combined with moderate playability, ***Crazy Cars 3*** will ultimately only appeal to those who either have never played a road racing game before and are interested or those who are hopelessly addicted and must have every game in the genre.

BUYERS GUIDE

There are countless motor racing games available on the ST, so how does Crazy Cars 3 compare with them. Is it a chokey old Lada or a Rolls Royce by another name.

	Gra	Sou	Rea	Pla	Las	Overall
Crazy Cars 3	8	7	R2	P8	L8	79
Lotus II	8	8	R3	P9	L8	90
Race Drivin	7	7	R8	P4	L6	80
Hard Drivin	7	6	R8	P4	L5	78

KEY: Gra = Graphics, S= Sound, R = Reality, P = Playability, L = Lastability.

CASTLES

The main title screen for Castles.

The King in conference. Taking advice from council.

Tony Dillon dons his crown and prepares to invade the Welsh in Interplay's new RPG

STRATEGY

Castles is a trip back to the apparently romantic days when Britain was coming out of the Dark Ages and England had finally declared itself a separate state. As England realised how easy this had been, it began to look further afield for a little action. The first thing it found was Wales, and decided to invade it. Obviously the Celts living there at the time weren't overjoyed, so rather than let a nation of Essex men wander through their lovely hillsides, they decided to fight back to reclaim their stolen land.

It was at this point that the English created a line of eight enormous castles to hold back the hoards. This is where the game begins.

KING OF THE CASTLE

You are King of the realm, and your job is to build castles strong enough to hold out the Celts, while keeping your own people happy. This might sound like a simple enough premise, but in practice it's very difficult..

As King, you have a variety of tasks to perform. The first, of course, is to design and oversee the construction of your buildings. Included in this package are jobs like setting salaries and hiring the right number of people. Next comes the military side of the show, where your armies have to be skilled and numerous. Finally there's the people, who take comfort in justified taxes and fair decisions to spot problems.

JCBS OUT!

Starting at the beginning, let's look at how a castle is constructed. Depending on your difficulty level you will either start with flat land or a ready made plan. The first thing you'll need to do is to construct your workforce. This is made up of seven different categories, ranging from diggers, who build moats and play a large role in the laying of foundations to quarrymen and masons, who supply and utilise the stone necessary to build the fortresses. Getting the right mix is vital, as too many of one and not enough of another results in wasted time and money. Once you have a workforce, you can begin construction. For the most part the game is viewed from a forced-perspective viewpoint, giving an interesting look at the world. Once you slip into the 'Design' submenu, the view switches to an overhead shot, making it easier to lay out your building. At the top-right of the screen are the five components you can use to build your new home, and by clicking on these and laying them down in a jigsaw fashion, you can design the building of the future. By linking short stretches of wall by towers, you should be able to create the kind of structure the architects behind Fort Knox will wish they had thought of.

Once the design is down (creating a solid outer wall before work on the keep begins) you can begin to assign the workers. Each 'piece' can have up to 90 workers on it at once, and obviously the more you have at a time, the faster it can be built. After a little laying out, you'll probably run out of workers and have to wait for one segment to be completed before you can move on to the next. Remember, castles take months, even years, to build.

TAXING PROBLEMS

Building a castle costs a lot of money. You have hundreds of skilled labourers to pay, as well as the enormous materi-

Keep the workers fed or you'll have problems.

al costs of stone and wood. Your main source of income is your people, who you sting for taxes every March. You can set taxation at one of four levels ranging from generous to tyrannical. With the tax set to generous, you won't take in much but the people will be very happy, and being tyrannical causes the opposite. If you find you are running out of money and you have quite some time to go before the next taxation day, you can levy monthly taxes, but this is sure to upset your folk. Or you could just sell Wales to someone...

The last thing you need to sort out are your military forces. These fall into two categories, infantry and archers. Lining the outside edges of your castle with these is usually enough to deter Celtic invaders, but not anything stronger. When you are under attack, everything else in the game takes a back seat and the game turns into a miniature wargame, with you first placing your units, and then assigning them targets to concentrate their fire on. When this is done, there is nothing you can do but sit back and watch.

At various points during the game you will be called to counsel by visitors and messengers. Most of the time these will be church members – the church having great power then and being very high up in royal priorities. Invariably these religious visits will be concerning fears that half your soldiers are the devil in disguise or some other nonsense, and at the end of each visit, you have to choose one of three responses, which will make you appear friendly, ruthless or disinterested respectively.

GOOD NEWS

Not all visits bear bad news, though. A soldier may appear and ask you to name his daughter. A band of musicians might ask to play in your castle. All these questions must be answered and you have to strike the right reply so that you remain popular with the public. ***Castles*** has an excellent design, and comes across as very original on the PC and Amiga. On the ST, though, the game is so slow that it becomes unplayable as soon as it is doing something harder than displaying an empty map. It slows down so much that fast clicks on the mouse button are completely missed by the program, so you have to keep trying to select options before it will let you.

It would have been really good, but when you consider that it took me a few hours to get one side of castle built, and most of that time was spent sitting down waiting for something to happen it becomes a numbing experience. I want to play games that I feel I have an active part in, not a program that requires me to say yes or no every half hour.

Very large, with a lot of different challenges
Castle designing can be fun
Interesting requests lift the boredom factor slightly

PROS AND CONS

Very, very slow
Game gets repetitive quickly
Wargame sequence is too simple

"An excellent design poorly implemented. A shame really..."

NAME: CASTLES
COMPANY: ELECTRONIC ARTS
CONTACT: 0753 549442

PRICE: £25.99
RELEASE DATE: AUGUST 1992
MIN MEMORY: 0.5 MB

GRAPHICS	○○○○○
SOUND	○○○○○
VALUE FOR MONEY	○○○○○
PLAYABILITY	○○○○○
OVERALL	68%

INSIDE INFO

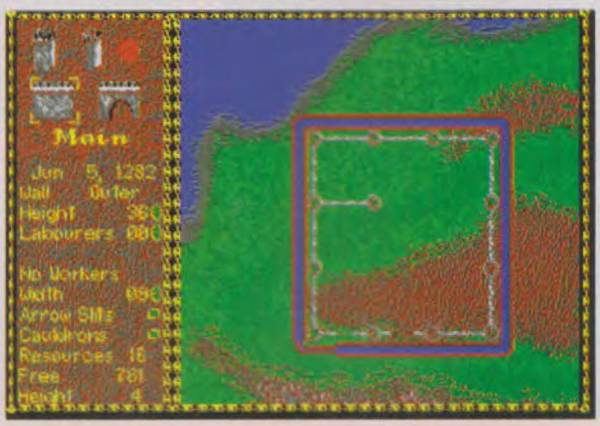
Although in this game, the aim is to build eight castles, in the real world Edward I actually built 10 in three separate castle building campaigns. Built between the dates of 1277 and 1323, the most remarkable thing about these buildings is the difference between them. Unlike town planners, Edward I built each one to have the strength it needed, therefore Harlech was a military fortress due to it's near location to Celtic settlements. The basic design of this castle was then strengthened and altered to build a castle at Caernarvon on the North coast of Wales.

As the building continued, the workmen and architects alike just got better and better, and the later castles, like Beaumaris are regarded as masterpieces of military engineering.

Keep your army of soldiers and archers on their toes. You can train them for peak efficiency.

Hire or fire craftsmen as and when you need them.

You need to keep an eye on the finances too. Don't be too greedy with the tax level or you'll find that the peasants are revolting!



The complete castle. It takes a bit of time to get it right. And even then things can go wrong.

FASCINA

Tony Dillon gets to grips with Digital Integration's new graphic adventure

Some years ago, Infogrames came up with a winning formula for a game. They invented an adventure that didn't involve text input and didn't have characters on screen but still let the player feel they were part of what was going on. That game was ***Vera Cruz***, and the detective theme of the story was played out against the backdrop of a mysterious murder. What was so unusual about it was that the first part of the game involved examining the murder scene (a still picture) very carefully. Clicking on any object gave a close-up and a short description, from which the player would piece the murder together. It was enormous fun, yet the style never really took off, and clones were few and far between.

Fascination, from Digital Integration, is in a similar mould to that golden oldie. You are a female airline pilot who has the misfortune of having a passenger die aboard your scheduled flight from Paris to Miami. Before he died, he told you about an important vial of fluid in his briefcase that must be returned to a scientist, but he kicked the bucket before he could tell you exactly where it is hidden in the briefcase.

You begin the game in your Miami hotel room, and because you are such a rough-and-ready gal, you've decided to follow the man's wishes to the last letter. After all, you only have to get the bottle to the right building, don't you? Or at least, that's the theory. What actually happens is that you become caught up in a plot of world domination, mad scientists and lingerie shops. And so the mystery commences...

As you start in the hotel room, it's probably the best place to describe how the game works. Every location is displayed as a single picture and you interact in the game using the mouse. As you drag the mouse pointer around, the names of any objects it passes are displayed at the bottom of the screen.

The star of the show. Interestingly, for once a woman takes centre stage.

The game is completely graphic orientated, with windows overlapping the main play area to show items of importance.

INTERACTION

Clicking with the left mouse button does a number of things. Primarily, it picks things up and the pointer changes to the shape of whatever it is you're holding. This automatically places the object in the inventory, and double clicking the right button leaves it there. If the object has any interesting features, like the combination lock on the dead man's briefcase, then that is displayed in close-up, and can be manipulated accordingly. These objects can't be picked up.

Once you have picked up an object, the general rule is to use it "on" something else to cause an event. You pour water from the water jug into the ice-tray in the freezer to make ice cubes, for example. This is how most puzzles are solved – by picking up as many objects as you can, and then using them in the right way to gain access to later parts of the game.

Demonstration is always the best explanation, so here's a quick walk-through of the hotel room. Looking around, you see the briefcase on the bed, a desk with a drawer, a telephone and a directory. Examining the briefcase, you see it has a five-letter combination lock, and a message reminds you that the guy on the plane said the combination was... AARGH! It's worth a try, so you enter that as the code, and the briefcase opens. Inside is an electric toothbrush, and there just happens to be a socket on the wall, but you need an adaptor

SMUT

Some people will do anything to widen the appeal of a game... On one side, this is a graphic adventure. On the other it's smutty, and not in a particularly humorous way either. The main character is a woman, which is fine, but do we really want to see digitised shots of a woman in a shower whenever you click on the bathroom in the hotel? Do we need soft-porn magazines in hotel foyers? Does the mad professor really need to have his top secret laboratory beneath a lingerie shop? No comment.

Easy controls
Logical use of objects
Big and addictive enough to make you want to see the whole game

PROS AND CONS

Some objects are very hard to see.
Slow disk access.

TION

You know you're getting somewhere when something like this happens. As you progress, so does the story, and this phone call is just one way of introducing new characters.

to plug it in.

Looking in the desk drawer, you find what you're looking for, and plug the lot in. Switching it on, a little door opens to reveal the vial.

Great! Now, what to do with it? You decide to phone the scientist you're delivering to, so you open the directory at the appropriate page and dial the number. You're told that he's busy, so you decide to hide the vial, but where? There are lots of places you could dump it, but you choose to encase it in ice. Putting it in the ice-tray in the freezer, and then pouring water on top should do the trick, but it doesn't. You've got to plug the freezer in first and now you can leave the room in the knowledge that the vial is safe.

It may sound easy, but that solution came after playing the game for a good hour. Things like the fridge-cable and plug are very small and placed discreetly, so a careful examination of the scene is needed. By moving the mouse very slowly across the screen it's possible to locate everything, but that still doesn't tell you how to use them.

LOGICAL, CAPTAIN

That said, the puzzles are logical. Most of the time, the objects you find do the job you would expect them to (keys open doors, plugs go into sockets etc), but it's easy to overlook small details. Later on in the swimming pool, you see a hat hanging on a peg. Taking the hat and giving it to a swimmer reveals the peg beneath. Examining the peg shows it to actually be a switch which turns on the pool lights. Switching them on displays a clue, but I'm not going to tell you what it is.

Visually the game has a lot of character. As all the rooms are displayed from a single viewpoint, the entire game is very stylised, with interesting 'camera angles' and cut-outs, where the picture is in a defined shape like a car or a woman, rather than a simple rectangular window.

I enjoyed playing ***Fascination*** a lot. It's a great challenge and the detective gameplay makes a refreshing change from more well-worn scenarios. It isn't very often that something with a spark of originality comes on to the market, and this is a game everyone can get into. If you think you're clever enough, why not see if you can solve the mystery of the vials?

"Novel graphic adventure. One for the detectives!"

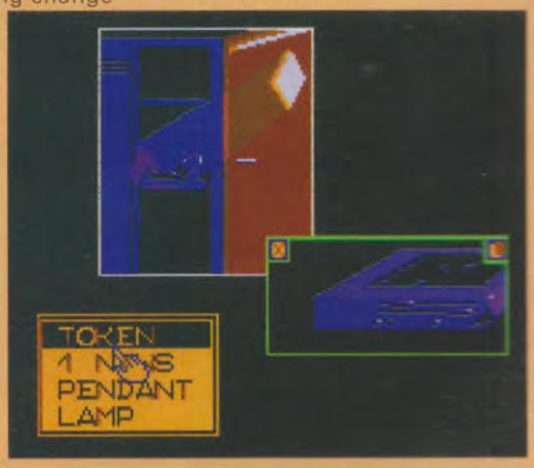
NAME: FASCINATION
COMPANY: DIGITAL INTEGRATION
CONTACT: 0276 684959

PRICE: £25.99
RELEASE DATE: OUT NOW
MIN MEMORY: 0.5 MB

EASE OF USE	●●●●○
DOCUMENTATION	●●●○○
EFFECTIVENESS	●●●○○
VALUE FOR MONEY	●●●○○

OVERALL 80%

If you look carefully at the walkman, you'll notice the battery compartment has a groove in it just like the phone token you picked up earlier.



STEP BY STEP

1 *The lady wants her pendant back, but can't find it. Try to cool her down – why not give her the hat!*

2 *She takes it gratefully, but I'm more interested in what it was hanging on. It wasn't a hook after all, it's a switch!*

3 *Flicking it turns on the underwater illumination revealing, yes, the pendant. Now we're getting somewhere!*

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Alternatively, you could grab an early night

With such voyages of fantasy at your fingertips, there's no reason to have a 'quiet night in' ever again. Devised by the guru of games design, Sid Meier, each adventure involves strategic role playing to stretch your imagination and sharpen your wits.

So you could be playing with the train set you always wanted, surviving and thriving in the company of Genghis Khan or navigating a galleon around the Spanish main.

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ORK

The latest game from Psygnosis is an arcade platform romp with more than its fair share of puzzles. The question is has it got what it takes to stand out from the genre? Tony Kaye investigates...

Training camps are never easy. But when the final lesson really IS the 'final' lesson, you need to pay attention. You are Ku - Kabul, a fine young trainee captain about to finish his training, one way or another.

'Ku - Kabul to the bridge!', the call you've been waiting for has finally arrived. This is the final test. Much studying and learning, not to mention other tests, have brought you to this point. You must prove yourself worthy of captaining a Heyadahl Star Cruiser. The examiners are seated along the rear wall of the bridge as you enter and the opposite wall forms a huge viewer, through which you know they'll be watching your progress, or lack of it. The word final rings in your ears as you prepare to take to the arena. It is time to fulfil your destiny. There will be no second chances, no re-runs.

As you prepare to be transported to the arena on the planet Ixion, thoughts of impending success (or failure) fill your head. You are armed only with a double cannon and an empty Jetpack. Ammo clips and fuel can be found on the planet itself, but don't get caught without either, because it could prove fatal...

SCENARIO

That's the scenario for ***Ork***, the latest from Psygnosis, which has a reputation for creating interesting backdrops for their games. This type of game is reaching the point where it offers nothing fundamentally new, so a good plot is essential.

The gameplay is nothing really new either. The style is similar to ***Barbarian*** or ***Shadow of the Beast***, so if you are familiar with these, ***Ork*** will come as no surprise. The gameplay has a pleasantly familiar feel to it — like you've been here before. Five levels get increasingly more difficult, as you progress through a mixture of arcade game and puzzles, which give a rare twist to the game. Fighting against the various foes is the mainstay of the game, so it's extremely curious that you can't duck. Some of the monsters you encounter are consequently impossible to avoid. This is just as annoying as their unnerving habit of appearing without much warning. The guns are a puzzle too. They make a noise, kill monsters and make contact with scenery, but don't make a trail when fired! This is really off-putting and although it's what it may really look like in life, it doesn't work in a game.

The graphics however are appealing whilst the sound is quite pleasant.

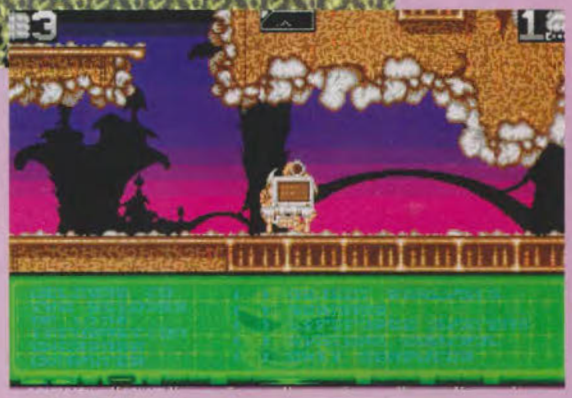
The game leaps in difficulty from level one to level two, which can make you quite despondent. Psygnosis has even included a hint book. I'm not sure I like the idea of this. After all, if you have the solution, you're going to look at it as soon as you get stuck (don't try and deny it!) and finish the game very quickly. Personally, for my twenty-six quid, I want it to last at least a few weeks.

In my opinion, this game formula is beginning to look tired. However, there are adventure game fans out there, who will continue to buy these games so long as the the software houses continue to produce them.

If Psygnosis wants to make money and attract new customers, they need another ***Lemmings*** rather than re-inventing the wheel.

Look everywhere, you never know what you may find.

Shooting the enemy. Note the firing action.



Use the computer to help you identify and locate various objects and locations.

Flying is an alternative to walking, but only from the launch pads.

Nice mix of arcade and adventure
Imaginative scenario
Familiar theme

PROS AND CONS

Difficult to control, hard to avoid contact with monsters

"A well-worn idea with nothing new"

NAME: ORK
COMPANY: PSGNOSIS
CONTACT: 051 709 5755

PRICE: £25.99
RELEASE DATE: OUT NOW
MIN MEMORY : 0.5 MB

GRAPHICS	●●●●○
SOUND	●●●●○
VALUE FOR MONEY	●●○○○
PLAYABILITY	●●●○○

OVERALL 72%

WIN, WIN, WIN! THOUSANDS OF POUNDS WORTH OF GAMES SOFTWARE

IF YOU PLAY GAMES ON THE ST THEN THIS IS THE PAGE FOR YOU

This is it, folks, your chance to win a giant software bundle. It's so big, we're not going to tell you exactly what's in it, but we'll guarantee that the first prize will be at least £500 worth of top quality games

As Hurrican Andrew finally becomes just a vague memorial to the end of summer, ST Review has decided that it's just about time for our grand Autumn giveaway.

We've decided that it's time to give you a chance to own some of the excellent games that we've been reviewing over the past few months and even a few that we haven't!

Exciting, challenging and colourful games such as ***Lure of the Temptress***, ***Wizkid*** and ***Championship Manager*** and many, many more will be up for grabs to the lucky winners along with more than a few surprises too.

We can guarantee that our winners won't be disappointed with our selections.

So, if you like playing games but can't afford to buy every one that takes your fancy (and you certainly won't be alone in that), or don't play games but wouldn't mind having a look at a few during breaks in your highly important day, then tarry not.

All you have to do is answer our two simple questions opposite, then just fill in the coupon and get your entry off today!

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DIGITAL INTEGRATION
PRICE: £25.99

They're short, green and on a mission to cure their king of his madness, they're the Gobliiins! You control the three heroes and have to guide them through a series of static screens by solving the relevant puzzles. Each goblin has different abilities, one is strong, one is fast and the third one can cast spells. Fantastically funny animation and some fiendishly clever puzzles make will make your brain-ache, but keep you smiling.

LURE OF THE TEMPTRESS
VIRGIN
PRICE: £29.99

Modelled in the Lucasfilm interactive adventure mould, ***Lure Of The Temptress*** casts you as a humble peasant caught up in the web of intrigue surrounding the mysterious death of a king. It turns out that a wicked demoness is behind this nefarious plot, and that you're the only person who can overthrow her. Temptress' point-and-click

control system makes it easy to get into and the excellent graphics and plot will keep you coming back for more.

D/GENERATION
MINDSCAPE
PRICE:£25.99

A scientist's dabbling in genetic engineering has to the creation of a homicidal monster, the D/Generation. Trapped inside a skyscraper, it's slaughtered most of the humans and triggered the building's laser defence mechanism. As head of the engineering project, you're the man who has to go in and stop this monster while negotiating the deadly heat-tracking laser cannons.

Don't be fooled by ***D/Generation***'s crude graphics, behind them lies taxing puzzles and a hugely addictive challenge.

CHAMPIONSHIP MANAGER
DOMARK
PRICE: £30.99

Not convinced by Graham Taylor? Try taking charge of your own side then!

Championship Manager gives you a team, a budget, a database of 1500 players, 380 teams and 650 rival managers.

You can play in friendlies, league games and Europe. You're in complete control of the tactics, formations, team selection, substitutions and buying in new players. If you're a football who's looking for a change, this could be right up your wing.

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1) The new Formula One World Champion is...

A) AYRTON SENNA

B) JAMES HUNT

C) NIGEL MANSELL

2) The games section in ST Review is called...

A) STREET SCENE

B) SCREEN SCENE

C) SCREEN STARS

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PLAN 9 FROM OUTER SPACE

Gremlin's latest game lies somewhere between fact and fantasy and follows the plot of the ultimate B-rated movie. Steve Keen sits in the cheap seats and discovers what constitues true horror...

LEFT: A New York taxi with a driver to match. You won't get far in his cab.

FAR LEFT: Tor Johnson's caught short in the bathroom. Try getting some more money from him.

Plan 9 From Outer Space needs no introduction as it is generally regarded by film critics to be the worst film ever made. For most flicks this would be the kiss of death, but ***Plan 9*** has built up such a cult following that the few thousand dollars investment made in 1959, have easily been reaped back by the curious fascination and even obsession that some film goers have with the movie which must rank as a stinker of a flick. So why did Gremlin pay out for a license to produce a game that has cost more to produce than the movie itself?

...AND ROLL 'EM

Playing the part of a private detective, you are hired by the ***Plan 9*** film producer, who bares an uncanny resemblance to Tor Johnson, to find six missing reels of the film. Control of your character is by mouse but all you have is a few verbs with which to interact within your environment. Most of the play area gives way to a static picture of a graveyard whilst the main play area is reduced to a small box nestling towards the top right hand side of the screen. Although disk access is kept to a minimum, moving around the screen is a surprisingly laborious task. This is due to the fact that the play window is so small. Early on in the game you are thrust into a prop cupboard, covered with 'useful' objects with which to fill your pockets, only to be kept there frantically sweeping around with the mouse pointer trying to rest on the minuscule sprite you want to pick up.

A SHOT AT A PLOT

The game's plot is as thin as Bruce Forsythe's hair line and it doesn't take you long to realise that ***Plan 9*** is little more than a point and click affair. Along the way you'll bump into many characters, most look like Tor but all of them have little to say for themselves. Speech is conducted via a multiple choice response feature but you can choose almost any of the provided text to initiate the proper response. You'll visit Lagosie's bachelor pad in Rio De Janeiro, Bars, Shops, quaint Dickensian streets and even the CIA offices, but with the constant interference of Johnson in his different guises it will all become very tedious and you'll begin to wonder why, if the film's so bad, does anyone want to find the rest of it?

You could be thinking, so far, that the game has been chucked together in a haphazard fashion to rake in a few more quick bucks on the back end of the cult movie. If so, you're mistaken. It's obvious from the screen shots that a good deal of care has gone into the presentation at least. The gritty graphics are great and there's a real feel of stepping into the characters B-movie world. Even though the animations can be deathly slow, they spice up the game and are the only aspects that keep you from giving up in boredom. Sound plays a large role too, although it would have been nice to see some sampled speech from the movie to complement the audio effects that take place when something dramatic does happen.

Plan 9's saving grace could have been the incorporated film-making feature. When all the missing film is found you can re-edit it and slice together your own feature. However, the end result is hardly worth waiting for and definitely not worth the price, even when you consider the inclusion of a VHS video of the original film, a must for fans, but for gameplayers what was really needed was a better use of humour and more intriguing gameplay. ***Plan 9*** could have been an absolute monster, but it has less atmosphere than either the flm or the outer space that ***Plan 9*** came from.

Great graphics and a novel idea
A wealth of locations

PROS AND CONS

Flawed gameplay due to a poor control system. Whatever the original reviewers said about the film could be repeated for this uninspired production

"A bit of a letdown in terms of gameplay and plot"

NAME: PLAN 9 FROM OUTER SPACE
COMPANY: GREMLIN
CONTACT: 0742 753423

PRICE: £34.99
RELEASE DATE: OUT NOW
MIN MEMORY: 0.5 MB

GRAPHICS	●●●●○
SOUND	●●●○○
VALUE FOR MONEY	●●○○○
PLAYABILITY	●●○○○

OVERALL 65%

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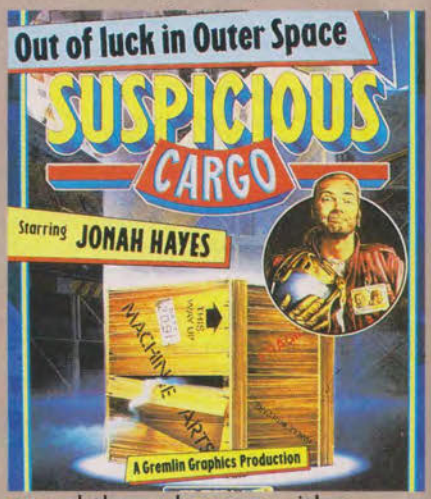

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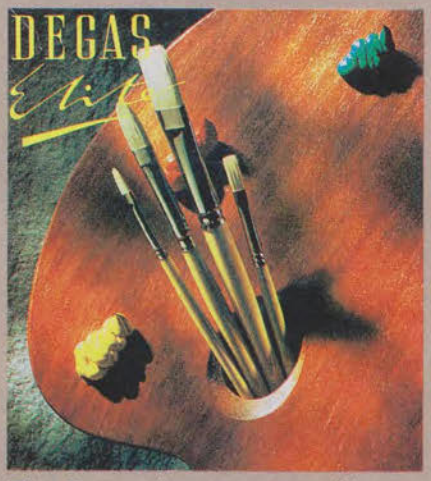

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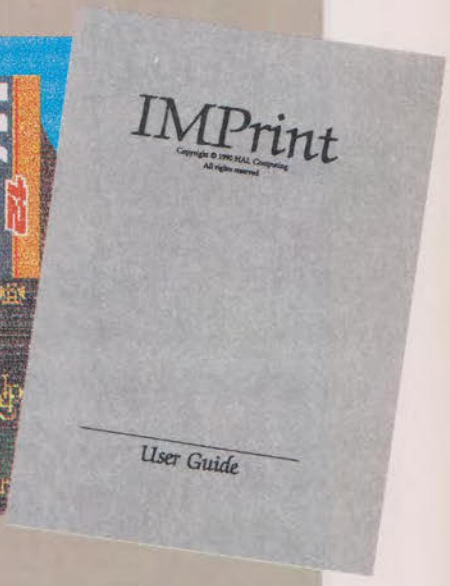

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VFM

This month's batch of budget goodies is put under the microscope of our expert team of reviewers

NARC

HIT SQUAD* ● *£7.99* ● *061 832 6633

IN BRIEF: ***Narc*** was born at a time when vicious drug barons were getting trounced by software houses all over the world. Indeed, this planet would be a lot safer if its police forces and armies were as effective as the characters in games like this. ***Narc*** is a large scale sprawling shoot-'em-up involving a boy in blue infiltrating the heart of a drug ring, run by the euphamistically named Mr Big. He is big, and so are his hordes of minions, worst of whom in my opinion (because there are so many of them) are the "charisma bypass patients" – zombies dressed in trenchcoats and looking for all the world as though they're out to scare old ladies and little children. There are 12 all-action levels before you end up in Mr Big's office for the final showdown and the object of the game is to arrest important criminals and shoot the rest. In true arcade style, there are plenty of end-of-level bad guys to deal with.

ST REVIEW COMMENT: "***Narc*** has good graphics and sound, emulating the original well. However, it's somewhat slower and some of the sprites are rather wooden in movement. Overall, the game is very much a formula shoot-'em-up - enjoyable if you're into arcade conversions but a bit boring otherwise."

PANZA KICK BOXING

ATARI ST REVIEW BUDGET BUY

KIXX* ● *£7.99* ● *021 356 3388

IN BRIEF: Your limbs will ache, your head will feel as though it's just been in a hydraulic compressor and your arteries will pump adrenalin to all bodily extremities.

Fight sims come and go, but ***Panza Kick Boxing*** is something to measure the competition against. It's a two-player game which allows you to rise through the ranks of the world kick boxing fraternity, meeting progressively tougher

boxers until you reach the master himself. There are lots of options, too many to list here, but they include previews of the next fighter you are matched up against, a save option which allows you to build on your successes and a training section which enables you to improve your boxer's strength and stamina. There are 13 different kick boxing blows on offer at any one time and learning these will take a while. Competence only comes when you've learned which moves best counter your opponent's, and a joystick is essential. One MB and upgrade owners can select their 13 from a total of 55 moves!!

ST REVIEW COMMENT: "***Panza Kick Boxing*** is the king of fighting sims. Against the computer or in two-player mode it's a great bash. The game seems a little slow at first but be thankful for small mercies because if it ran as fast as real kick boxing you'd never actually see what's going on. The graphics are great, the sound is great, the realism is great. There is only one ***Panza*** and at this price it's pure gold."

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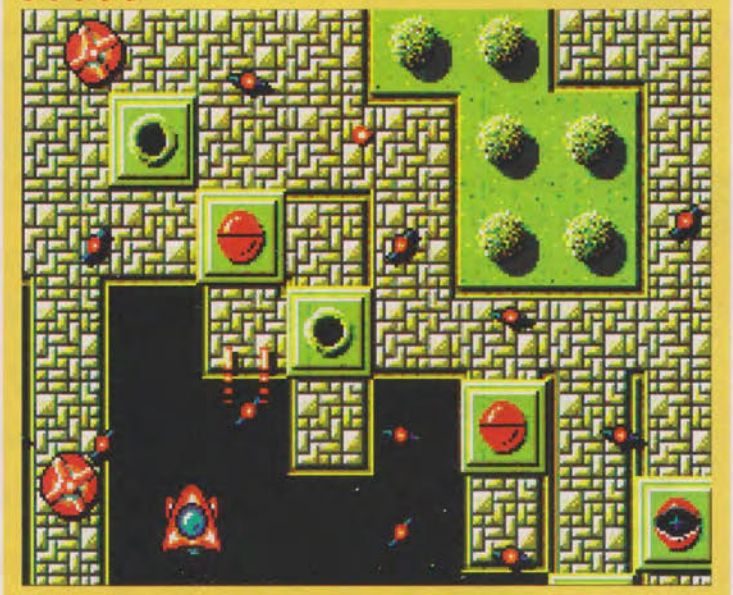
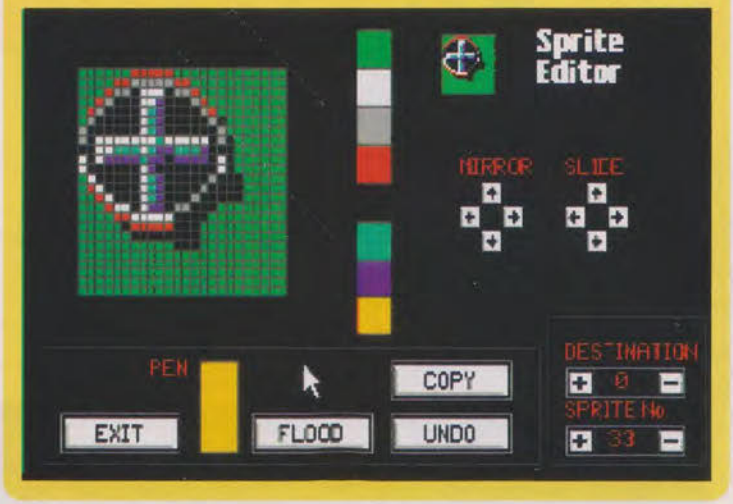
IN BRIEF: Ever fancied yourself as a top games programmer? Well now, with the budget release of this amazing utility, you can create your very own shoot-'em-up arcade adventures, and you don't even have to learn a programming language! Completely mouse and joystick controlled, you don't have to touch the keyboard. You can design all your own sprites, objects, backgrounds and sound effects, define enemy and player limitations, write one or two player games. And you can test-play all your creations, either normally or with a cheat mode installed. Indeed, you can do virtually anything limited by only your own imagination. There are three demonstration games, created with ***SEUCK***, included on the disk, and these really do show off the program's immense ability and potential. It is quite possible to create shoot-'em-ups to the standard of some commercial software with ***SEUCK*** – the results look very impressive.

ATARI ST REVIEW BUDGET BUY

ST REVIEW COMMENT: "An absolutely fantastic utility. Now anyone can create top quality shooters with the utmost ease. ***SEUCK*** cannot be recommended enough. It is so easy to use it makes sleeping look difficult, and you'll be amazed what you can do. The manual explains everything very thoroughly, but is written in a very light-hearted and witty style that makes it a joy to read. In fact the whole program is a joy to use, and is undoubtedly an ST Review Best Buy."

✪✪✪✪✪





TOTAL RECALL

HIT SQUAD ● £7.99 ● 061 832 6633

IN BRIEF: Another larger-than-life showboat for the bemuscled one, ***Total Recall*** was a hit film in 1990 with stunning special effects and an out-of-this-world storyline. Then came the game – another platformer. But wait! For those that don't know yet, Arnie has lost his mind and he needs to rediscover it and save the world while he's about it. The game starts off on Earth where Arnie has to kill battalions of crooked cops, drive a minicab and jump on lots of platforms to discover that the only solution to his problem is to go to Mars and do the same thing all over again. There are six levels and each one is quite detailed. You don't just have to hit and shoot things either, there are lots of objects, weapons and powerups to pick up and you must remember where you are going at all times 'cos trouble inevitably lurks just around the corner.

ST REVIEW COMMENT: "***Total Recall*** is a lot more interesting to play than your average platformer. This is largely due to the fact that the Arnie sprite is good fun to watch and actually performs quite well, even in the dreaded hand to hand combat. This, combined with a better than average attempt at actually sticking to the movie's storyline, means that ***Total Recall*** is a good buy at £7.99."

✪✪✪✪

SUPERCARS

GBH £7.99 ● 0742 753423

IN BRIEF: Fasten your seat belts and let's go racing. ***Supercars*** is a good, fun racing game from Gremlin that will keep you going for quite a while. The fun starts in the garage, where they not only sell new parts for the car, but also turbo chargers, power steering, high speed kits, side armour and even front and rear rockets!

ATARI ST BUDGET BUY

There are nine different tracks and lots of other cars for you to tackle before you can move on to the next level and there are three levels of action. You can play at car dealers too, trying to sell your car and buy a better, faster one from the salesman, but be careful. If you upset him by trying to barter a bit too hard, he'll send you away with a flea in your ear and you'll have to wait until after the next race!

The main racing screen is an overhead view with you at the back of the grid. There are only three other cars in front at first, but they're not going to move over for you. You win money by winning races.

ST REVIEW COMMENT: "***Supercars*** is the kind of game that you go back to like an old friend you lost contact with. The game-play seems to bring back some of the fun that the old 8 bit games had and are sadly lacking in a lot of the newer offerings. After all, that's what we play games for, isn't it?"

✪✪✪✪✪

WORLD CLASS LEADERBOARD

KIXX ● £7.99 ● 021 625 3311

IN BRIEF: In 1985 and the ensuing few years, ***Leaderboard*** was one of the best-selling computer games across all formats, and is still widely accepted as one of the greatest sports simulations ever. Long before Microprose ever considered doing a Golf game, 8- and 16-bit owners were thwacking away across enormous fairways, avoiding sand and water alike in a test of reflexes so addictive that very few games have managed to come close.

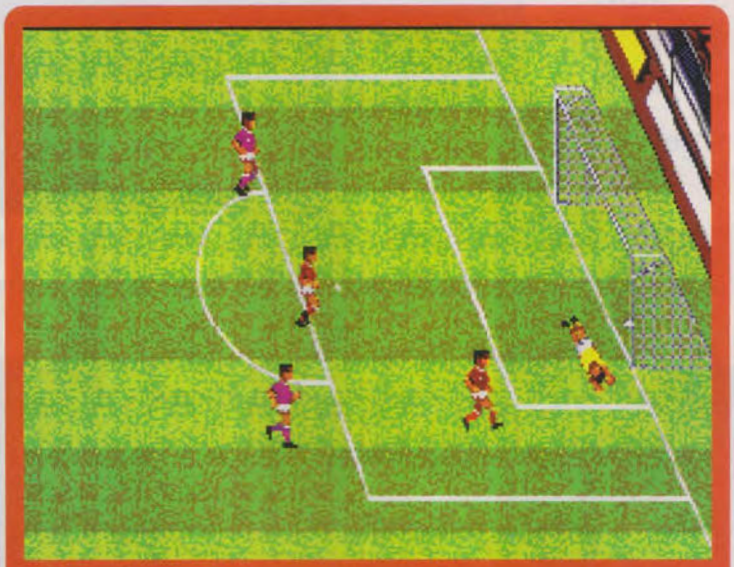
After numerous versions (***Leaderboard, World Class Leaderboard, Championship Leaderboard*** etc) and a variety of compilatons, ***Leaderboard*** is finally available on budget, and is not to be missed by anyone.

So what is there about a golf game that hasn't been said a million times before? You, along with up to three of your friends, can have a crack at being the next Ballesteros across the four 18-hole courses in this package. Armed with a full complement of clubs and an infinite amount of balls (for those tricky moments) the aim is to drop the little white ball into the small hole hundreds of yards away in the smallest number of strokes. The person with the lowest number wins.

Sprite, rather than polygon-based, the game gives you some attractive sprite based views of the course, as well as snippets of information about the distance to the hole and your current score. Like ***Microprose Golf***, taking a shot requires two taps on the mouse button - once to set strength and one to set the angle.

ST REVIEW COMMENT: "You'd be a fool to miss out on such a classic piece of software. It's still as playable today as it's always been, although the game is a little slow. It's a shame it's mouse only, as I always remember playing it on joystick on my humble Commodore 64, but you can't have everything for £8, can you?

✪✪✪✪



GRAEME SOUNESS SOCCER MANAGER

ZEPPELIN ● £7.99 ● 091 385 7755

IN BRIEF: Yet another soccer game arrives on the scene, and not surprisingly it actually varies very little from all the other soccer games. This type of game really depends on how much you like soccer, or more to the point, how much you like soccer management simulations.

All the elements of managing a club are here, including team selection, statements of accounts, buying and selling players, medic, fixtures and results, match highlights and even visiting the bank manager.

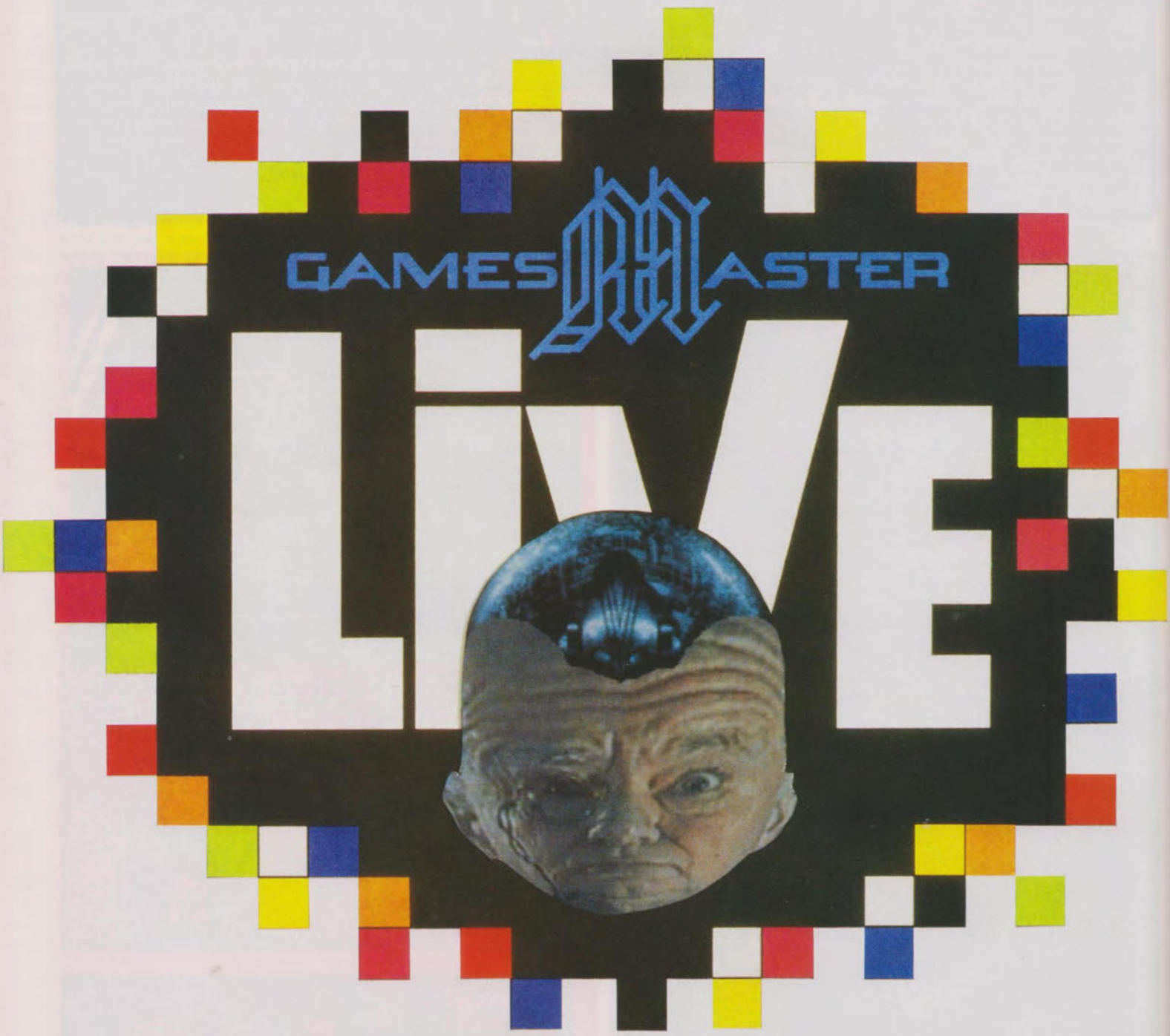
You take the part of Graeme Souness and select a club to manage. It's then up to you to select a team to conquer all and win the championship.

There's no actual football action, save for the highlights of the matches. This is not the best management sim ever seen; it's more management simulation than soccer match, but if you like this kind of interactive game, or fancy you could do a better job than Souness, here's your chance to prove it. Watch out for the phone icon. When the chairman wants to talk to you, you'll get summoned and have to answer for your actions!

ST REVIEW COMMENT: "I must say there are better games than this one around, but at only £7.99, it's not bad, especially if you're a fan of Souness anyway. My vote: No score draw."

✪✪✪

4TH-6TH DECEMBER 1992



NEC BIRMINGHAM

GOOD NEWS BAD NEWS

Here at the ST lair we strive to give you attractive, objective and bang up-to-date journalism. But we're no use to you if we stand upon a pedestal — so here's an open invitation to any reader who would like to join a regular panel of valued experts: come along to our office and let us know WHAT YOU would like to see in ST Review and HOW WE could improve YOUR magazine. You must be prepared to give up an occasional evening or a Saturday or Sunday, and don't worry if you come along to the first meeting and find out that it's not for you — there are no strings attached.
So, if you want to be considered, just fill in the form below, send it in, and we'll take it from there. Tea, tuck, transport fare and a nominal fee will all be available to those who are invited along. . .

Please complete all categories

1 About you

Name:.....

Address:.....

Telephone number:.....

Age:

Sex:

Male ❑

Female ❑

Are you?

Employed ❑ Unemployed ❑ Other ❑

2 What sort of Atari do you own?

.....

.....

.....

.....

.....

3 How long have you owned it?

.....

.....

4 Have you upgraded your machine

Yes ❑ No ❑

5 What do you do you use your Atari for?

.....

.....

.....

.....

6 How much time per week do you spend using your ST?

Less than 2 hours per week ❑

2-5 hours per week ❑

6-10 hours per week ❑

11-15 hours per week ❑

16-20 hours per week ❑

Over 20 hours per week ❑

7 How many copies of ST Review have you bought in the last six months?

.....

.....

8 What other computer magazines do you regularly buy?

.....

.....

9 What magazines or newspapers, other than those which are computer-related, do you regularly buy?

.....

.....

Thank you for taking the time to complete this questionnaire. Please send your completed forms to Customer Care, Atari ST Review, Priory Court, 30-32 Farringdon Lane, London EC1R 3AU. Photocopied forms are acceptable.

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Characters between asterixes show special requirements: *M* = Mono Res, *C* = Colour Res, *D* = Double Sided Disk, *X* 1 Meg Ram, *S* = Not STE/Rainbow TOS

DESK ACCESSORIES & UTILITIES

U001 Dir printer, RAMdisks, Snapshot screen save. Desk Acc. loader.
U003 Desk. ACCs formatter, calendar, Disk Manager, calculator
U008 68000 Assembler, Address/Mailing List, Autodial Utility
U009 PICSWITCH 7 changes pics graphics res. Mono/colour emulators. SWITCHER, 2 progs in memory FSEL 5.5
U010 STE BOOT UP, boot medium res
U014 ARC file compiler. BI CLOCK set time/date. MONOEMUlator v5.0.
U016 IBM compatible disk formatter. ARC SHELL v1.91, MEGA formatter
U019 DRFLOPPY, disk editor, SCODE make ASCII for data transfer
U023 Packed with various progs for printing all kinds of labels *M*
U024 CHK 2.3, All you'd need to know about a disk. IBM MODIFIER, alter DS Atari disks for use on IBMs.
U027 ANTIDOTE, detect & kill most bootsector viruses.
U028 DISKMECH disk analyser/archiver/editor, edit/format sectors etc. full docs. CPANEL
U030 AMC GDOS
U032 MOUSE TRICKS, extensive control over mouse, movement etc.
U033 MX-2 v2.3 a multi-tasking environment, up to 7 concurrent tasks. *D*
U034 DOUBLE CLICK format v3. 03 9/10 sectors, 80/82 tracks.
U035 DEC edit clone. Disk engineer v3.01 do alsorts to a disk via GEM.
U040 AUTOGEM autoboots Gem programs. VC Spreadsheet non-GEM.
U041 ADDRESS LOG, Address book & label printer, disk cataloguer.
U046 SUPERVKILLER detects 5 viruses, 7 anti-viruses.
U050 GEMINI Desktop replacement. English version *DXS*
U052 GEM PLUS. Neodesk variant.
U057 GEMDOS USER GUIDE, full of info about GEM-DOS
U058 ATARI TOS 1.4 bug fixes (STFMs with Rainbow TOS)
U059 XCONTROL ATARI'S latest TT control panel accessory for all STs.
U063 MEMFILE 2.0. Memory and disk editor with powerful features.
U065 STDCAT v4.0, disk catalogue.
U067 ARCSHELL v3.0, Arc V6.0
U068 HITCHHIKERS PD shareware disk 2.0
U069 ST Zine shell, Disk mag development tool.
U070 SUPERB Intro creator, sprite, pics, text & music
U073 SUPERBOOT V7.0
U075 ST TOOLS, many features
U077 GOODIES, multiple featured desk accessory
U080 JAMES, the desktop butler.

GRAPHIC, FONT AND ART/DRAWING DISKS

A005 PALART, excellent art program with full doc files. *C*
A009 COLUMBIA, Drawing prog, some 3D elements. Studio (*X*), Drawing package. Both German
A012 DOODLE, mono & colour versions. Also some Mandelzoom pics.
A013 ST GRAPH. Comprehensive graph prog, handles bar, horizontal/stacked bar, line & dot charts.
A015 FONTS2, 7 screen/desktop fonts, inc. Columbia, Devoll, Hudson
A018 CANVAS, great art package
A020 PALETTE MASTER, art package, up to 512 colours. *C*
A024 FRACKTAL drawing program from Germany. Mono/Col.
A025 FONTKIT 3.31 *D*
A027 ANI-ST, ex-commercial package, quality animation system
A029 MASTERPAINT drawing package, excellent, Mono & Col.
A030 PICWORKS, enlarge/reformat pics up to 3 times normal size. *M*
A034 PUBLIC PAINTER. *M*
A036 SNOOPY cartoon pics. *C*
A042 ST CAD v2.1, a med/high res CAD package. Full docs. CALC-PLOT, scientific calculator
A043 THE ARTIST, Great drawing package with many options. *M*
A048 JIL CAD, Shareware. *XD*
A053 MOVIE CONSTRUCTOR, FACE ANIMATOR. *M*
A054 SIMPLE DRAW v3.4, art package. Docs foreign. Med/Hi-res
A059 MASTER DOODLE, shareware art package for the younger user.

CLIP ART

C002 Human figures, cartoons, titles.
C003 Sports figures, July 4th logos.
C010 Occasional Clips, Characters etc.
C011 Loads more fruit, vegetables.
C012 Herbs & Kitchen parts.
C013 Humorous clips, Letters A-Z.
C015 Babies, boys and girls
C016 Girls, Scrolls and Occasional Clips
C017 Artdeco, Baby boy & girl
C018 Varied Humorous Clips.

WORDPROCESSING & DESKTOP PUBLISHING

W001-006 TEX, 6 Disk Pack, document processor. *M*
W008 1st WORD wordprocessor. Professional fully GEM based
W009 Easy Text v1.2 fully working DTP demo (w010 for DS users)
W013 STPAGE, super fast editor
W015 HYPERTEXT. Shareware prog. Produce professional docs. *MD*
W017 ST Writer Elite V4.1 top quality wordprocessor
W018 WORD 400, Desk Accessory WPR. Fully featured

PROGRAMMING/LANGUAGE DISKS

P001 68000 Assembler
P002 STOS SOUND FX creator.
P008-P10C LANGUAGE DISKS 1, 2 & 3 of Elementary C, a set of 3 disks.
P012 CPM EMULATOR, CPM-8 v 2.0.
P013 CPM UTILITIES for P012.
P017 PROGRAMMING EDITORS; CONTEXT v2, PRO-ED & P-EDIT, full docs.
P019 Nigel Smith's ST 6800 pop-up ref. guide.
P020 SOZOBON C, Great C compiler *D*
P022 SPRITE EDITOR. Create and save sprites.
P023 C TUTORIAL, disk manual
P026 MKRSC a simple GEM resource construction utility.
P027 MODPAS, Pascal Compiler. *D*
P029 GFA EXPERT, all you need to know about GFA v3 basic.

GAMES DISKS (colour unless stated)

G001 Warzone, Daleks, etc.
G014 SUPERBREAKOUT, 40+ brick types with special features. *M*
G016 NAPOLEON, wargame sim. *M*
G017 EMPIRE BUILDER property developer. LOST TREASURE & JUMPSTER
G018 RUSH, move bricks to create a way out for the ball.
G020 YAHTZEE, popular game.
G021 UPSTARTshoot cherries. *S*
G022 COMPANION shoot 'em up in outer space
G025 ENGLAND Team Manager
G027 DIE ALIEN BLOB, a great shoot 'em up, excellent graphics.
G028 TREASURE SEARCH, find the hidden treasure. *SD*
G033 ADVENTURE WRITING SYSTEM
G037 TUNNEL VISION, maze game
G038 BERMUDA RACE 2
G039 INVASION, adventure
G041 Hack! is a D&D adv.
G045 AYATOLLA, terrorists attack. *S*
G046 ROBOTZ, 40 levels, great
G047 FRUIT MACHINE simulator
G056 SLIDE, 3 levs, puzzle. *S*
G063 SOLITAIR 3D graphics. Macpan. Galaxy & Sprengmeister. *M*
G064 ATOMS mentally challenging, KILLERCHESS fast & furious, AMMOTRACK'S a superb race & blast 'em.
G068 SKIDPAN, motor racing. *S*
G069 STOCKMARKET, Wheel & Deal. Galactice Warriors, shoot 'em-up.
G084 FLOYD THE DROYD, ultra fast shoot 'em-up. Sampled sound.
G085 AIR WARRIOR, Flight sim
G086 COMPUTER PINBALL. DEVASTATOR, 3D strategy game.
G090 TALESPIN, Wolf and 7 kids
G092 FUZZBALL platform game
G093 SHIPWRECK, educational maths with graphics. *S*
G094 ZOG a great blasting game. SUPER SENSORI.
G095 A DUDLEY DILEMMA, adv.
G097 WIZZARD'S LAIR adv.
G098 UNDER BERKWOOD Massive graphic adventure
G100 NAVAL BATTLE, Battleships
G102 CENTAURI, shoot 'em up.
G106 VIRUS, great graphics & sound. *S*
G108 FLYOVER, bombing raid
G109 GLOB, you collect cherry cakes while avoiding pursuers.
G111 TRACKER, you drive your tracker through enemy territory.
G112 OVERLANDER, shoot 'em up.
G113 CHANCE, battle the Archons.
G114 ESCAPE FROM THE TOMB OF RA.
G115 MUTANT, reactor out of control, workers mutate.
G116 KEY TO ATLANTIS, underwater scrolling shoot 'em up.
G118 MARS MAZE, platform game.
G119 STEEL, blast everything.
G122 HEDGEHOG, Frogger clone. *S*
G123 THE NAME GAME. +editor.
G128 TARK, great text adventure
G129 BATTLE FOR THE THRONE.
G130 LLAMATRON, a great Shareware game by Geoff Minter. *D*
G131 VIDEO POKER: Las Vegas poker playing machine.
G132 DERRICK THE DROID: platform, shoot 'em up & puzzle game in one.
G136 PORK II: ZORK send up.
G137 MORIA: Fantasy RPG. *D*
G138 SHOOT 'EM UP BUILDER KIT. *D*
G141 DUNGEON!: Multi choice fantasy adventure with some humour.
G144 HACKMAN, 50 levels, Pacman clone. *S*
G145 ELVEN CRYSTALS II: Adv
G149 STARMAZE: Various levels, blast alien craft on your way.
G150 A NIGHT ON THE TOWN adv.
G151 TILE GAME, rearrange the letters. *S*
G152 SOKO, 50 levs maze/puzzle
G153 MEGAROIDS, RIPCORD, SPACEWAR, BUGS
G154 BATTLE SCAPE 2 player fantasy war-gaming.
G155 FRUSTRATION, CRISSCROSS.
G156 BACKGAMMON, POKER SQ'D.
G158 FLY ROBIN, SANTAS WORKSHOP
G159 PENGUIN, excellent shareware
G160 CROCODILES PASTIMES.
G162 REVENGE OF THE MUTANT CAMELS 1 or 2 players.
G164 SPACE INVADERS, a classic
G165 BLOCKADE, Qix clone
G167 TENNIS great graphics/gameplay.
G169 ROCKFALL, boulderdash type.
G172 ENTOMBED, platform 5 levels.
G176 ARMOURLYTE, horizontal scrolling shoot 'em-up.
G177 GRAV, rotate & thrust.
G178 MAZE, split screen, 2 players + editor, great.
G181 OZONE, platform/puzzle, many enemies, shareware game.
G182 POBOLO, excellent Arkanoid clone, colour & mono. *DX*
G183 INFILTRATION, defeat the aliens, shareware.

APPLICATIONS – Spreadsheets, Databases etc.

S001 DATABASE 1, GEM driven database.
S002 ST SHEET, quality spreadsheet *C*
S005 B/STAT v2.01, sophisticated graphing & stat analysis. *DX*
S007 OPUS v2.2, GEM based spreadsheet & charting program. *DX*
S009 WG DATA, high quality DTB. Full docs.
S011 DOUBLE SENTRY, fully working accounts package (no VAT)
S012 PERSONNEL DTB, Names & addresses DTB.
S013 INVENTORY PRO V2.0 stock control system.
S014 TCOS, tree structured DTB.
S015 ZAPCARD easy to use card type DTB.
S016 SHEET V2, spreadsheet. Similar to Lotus 123. docs.
S017 DATAPLOT, sophisticated data plotting package.
S019 FASTBASE, absolutely brilliant, sophisticated shareware database. Excellent features.

GULF TORNADO £1.99 (not PD)

Great scrolling shoot 'em up. Blast those Migs and Missile launchers with your fighter/bomber. 1 or 2 players

COMMUNICATIONS DISKS

CD001 PACK-ET-TERM v3.3a, radio package with docs.
CD005 UNITERM v2.0a with auto-dialler & phone book.
CD006 VANTERM 3.71 & 3.8 great communications package.
CD009 HAGTERM ELITE v3.3 powerful shareware comms package

MUSIC

M001 COMPOSER, music creation.
M006 KEYBOARD program, various songs & samples.
M012 SINGING CALIFORNIAN RAISONS. *X*
M013 MUSIC WRITER, create music.
M016 CASIO CZ SOUNDS & EDITOR
M020 XBIOS Music Const. Kit
M021 PERCUSSAMAN, 4 track, 16 instrument, synthesised sequencer.
M022 SOUNDTRACKER PLAYER & MODULES. D_DREAD 1, D_DREAD 2, PAT_MIX, RVB_DEMO, SPREAD.
M025 MFP, Music design package. *DXM*
M026 CHORDEX tool for learning major/minor chord shapes.
M029 MIDI v2.0 monitor, Med/High res. Shareware EX800 v2.0.
M031 DBRK4802, daybreak step time sequencer v.3.
M035 ACCOMPANIST 2.4, 16 voice shareware sequencer.
M040 EDSYNTH 1.2 music synthesiser.

EDUCATIONAL

E002 WORLD MAP GAME
E004 Spelling Made easy
E005 REBUS WRITER, design & print rebuses. Samples included.
E006 BARNYARD, pair the animals from memory. *C*
E007 WELCOME TO CHEMISTRY V2. *S*
E008 CHUNNEL, A French to English & vice-versa tutorial game. *C*
E010 PERFECT MATCH , PENTOMINOES
E011 TYPING TUTOR (2) with full documentation.
E013 MATHS MADE EASY
E014 KIDGRAPH, KIDMUSIC, KIDPIANO, KIDPOTATO *C*
E015 KIDPUBLISHER, KIDSONG
E016 DOT 2 DOT, includes creator.
E019 SOLAR SYSTEM GEOGRAPHY
E020 GEOGRAPHY TUTOR
E021 ZOO MAKER, you're asked questions, the computer tries to guess the animal.
E022 ME FIRST, BUTTERFLY IN THE PARK.
E023 COLOURING BOOK.

GENERAL

F003 SKY MAP, display over 1500 stars.
F005 CONSTELLATIONS, A comprehensive astronomers disk *M*
F006 PLANETARIUM, get stats on almost any planet or moon.
F009 THE PLANETS. *D*
F012 AUTOROUTE, working demo covering the south of England.
F013 POOLWISE V3.5, pools predictor, MED RES.
F016 ST TOUR, guided tour.
F017 YOUR SECOND ATARI MANUAL.
F018 NEWGEN V4, shareware, 10 record limit.
F020 ST TECHNICAL MANUALS.
F021 BUSINESS LETTERS, 100 business style letters in ASCII code.
F022 ASSISTANT CHEF, 142 recipes + add your own.
F023 ASTRO 22, Astrology
F026-28 A ROMAN MYSTERY, graphic art images, Roman magazine, Graphic database with a murder investigation, plus more. *3 disks*
F029 COMPACT OFFICE MANAGEMENT, excellent accounting program for small business and sole traders. Comprehensive. *D*

DEMO'S

D005 THE DEFINITIVE DEMO. *D*
D006 SLATATANIC CULT, Music Demo I & II. *D*
D007 ASTERIX DEMO.
D008 BOMB THE BASS.
D009 TRANSYLVANIA DEMO. *D*
D010 SOUND CONNEXIONS. *D*
D011 THE NEW YEAR DEMO. *D*
D012 STINGRAY DEMO.
D017 COUNTERPOINT DEMO.
D018 CUDDLY DEMOS. *S*
D019 MASTERSOUNDS DEMO.
D020 ROBOMIX DEMO.
D021 STAR WARS DEMO.

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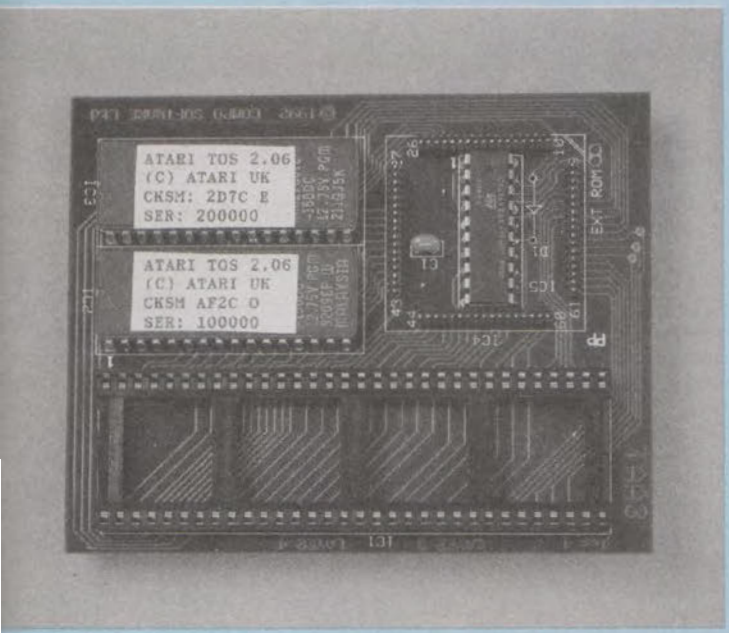


The new TOS 2.06 upgrade gives you a revitalised operating system and a sexy desktop. Its virtues are reviewed in the Product Review section but you can win one for free on page 135

It's time for the Blues again – looking at ways for you to get that little bit extra out of your ST.

This month our Powering Up Your ST series looks at ways of saving you time. Instead of repeating often-used commands, why not invest in a key Macro program and press only one key to perform several keyboard or mouse commands.

In the Public Domain this month we take a look at computer learning packages covering subjects from typing to languages. There are also reviews of all the latest games and utilities...

Whilst we're on the subject of education, don't forget to check out the latest Step by Step tutorials that give you the inside information on First Word Plus from last month's cover disk and the third part of our HiSoft BASIC course.

And still there's more! There's the comms pages, readers' letters, all your technical problems answered in Ask the Experts, Learn the Lingo, see what's hot in the charts and hear what people have to say about what's going on in the world of the ST in the Opinion pages.

Most ST owners only get sad if they haven't got the Blues...

PUSHING BUTTONS

In the fourth part of our productivity series, Andrew Wright shows you how to automate your ST and save all that repetitious use of common command strings by using macros

AUTO ON PROGRAMS

INSIDE INFO

Macros are time saving devices that reduce the need to keep replicating long series of keyboard and/or mouse inputs that can be associated with certain, regular uses.

Actual macro programs were first developed on PCs where the operating languages of MSDOS, PCDOS and the like, involve typing in large chunks of text in the seemingly meaningless operating language each time you want to enter a command.

Macros overcome this problem. Originally developed by programmers who didn't want to waste time continually entering text, macros are now included in many software packages where a plethora of keyboard shortcuts, macros in themselves, are used. Most DTP and word-processing packages have these shortcuts as standard and some even include Macro facilities where the user can "record" a series of key depressions or mouse movements and clicks in order to save the operator time when using often repeated series of commands.

There can be few better ways of improving your productivity than cutting out all those repetitive key presses that seem to take up so much of the working day. Oddly enough though, macros are rarely used to the full, even by programmers and keyboard professionals. This is largely due to a lack of understanding of what macros can do and how they work, but having said that, they can be a little difficult to get to grips with, and this is likely to put many potential users off.

Humans interact with the computer by pressing keys on the keyboard or selecting commands with the mouse. The computer then carries out a set sequence of tasks relating to that command. In fact, every time you press "Save", you are really starting off a macro comprising various commands to the ST to check the disk drive, report back, show you the file selector, read the filename, and so on. Macro programming uses the same principle, but it's the users who decide which commands to string together.

MACRO IDEAS

The simplest example is the user who repeatedly types the same string of text into letters and documents – something like a company name or even address. Think how much quicker it would be if one of the unused function keys could be used to recall that same information whenever it needed typing in. Widely used phrases can also be typed in with macros – a useful feature in business for repeated invoicing or database entry. Another use for macros is actually stringing commands together. Many applications have extensive keyboard shortcuts: for example, it is possible to set up a macro that loads a specific file into a word processor, even if it is stored in a nested directory. This is useful for retrieving templates – word processor files that serve as the basis for most commonly used documents such as fax messages, letters and perhaps invoices.

MACRO MANIA

The interesting thing about macro programming is that the more you start to use them, the more ideas come to mind. Have you ever envied the Autosave feature on some programs that saves your work every few minutes? Setting up a timed macro is easily possible with a sophisticated utility such as ***Codekeys***. It can prompt you every few minutes, or simply carry the task out automatically.

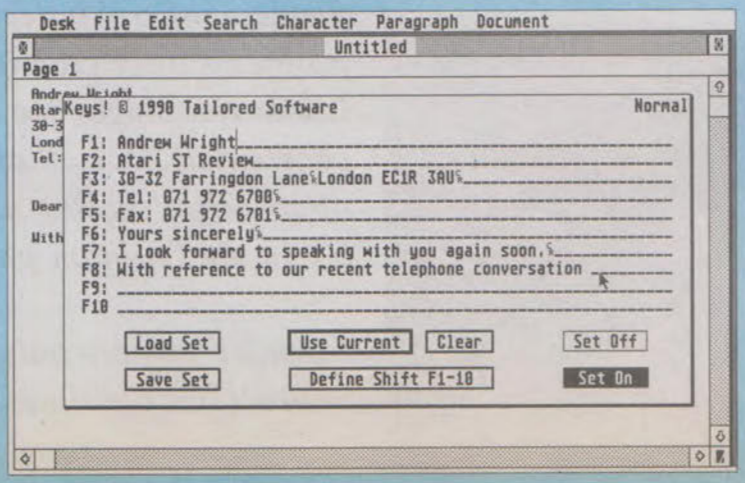
Macros are particularly useful for quickly accessing features in a program that are normally hidden away inside several menu layers. Hyperpaint users might well get annoyed at having to enter Alternate-E, select a workscreen with the mouse and then press return, just to switch workscreens. It is far easier to set up a set of macros – F1 for screen 1, F2 for screen 2 and so on. Mouse-based utilities come in handy here for accessing check boxes and radio buttons on dialogue boxes.

"Codekeys is undoubtedly the best in its class."

Have you ever wondered why some programs use odd key presses? Or would you like to make all your programs use similar keyboard shortcuts? Plenty of Mac and PC applications use the same keyboard shortcuts for cut, copy and paste. Soft-Logik's ***Pagestream*** DTP program does too, much to its credit, but many others don't. If you would like your word processor, graphics package and DTP program to use the same shortcuts, the technology is there.

MULTI MACRO

The main problem in choosing a macro program is that they are all different. Only one – ***Codekeys*** – offers the complete range of functionality that will provide you with solutions to all your problems, but not unexpectedly, it's the most expensive program on the market. On the other hand, a quick, but careful analysis of your needs should save you some



Macro utilities such as Keys! can store frequently used text strings for instant recall at the touch of a button.

cash and ensure you get the right program.

Many programs have their own macro capabilities built in. ***Pagestream*** has a powerful macro command interpreter that can automate the opening and saving of documents as well as other time-consuming tasks, such as search and replace and altering paragraph styles. Unfortunately, it

"Keys! is a strong contender for best value for money macro."

only allows 10 macros per file, so a simple key-based macro utility can make life a lot easier.

If your favourite applications have keyboard shortcuts based on the Control and Alternate keys, an inexpensive program such as ***Keys!*** will be able to do most of the work for you. A ***Keys!*** macro file uses the function keys and shifted function keys to provide up to as many as 20 macros.

Text strings can be input or a sequence of commands can be added, which include Control, Alternate and carriage return. A good example of a ***Keys!*** macro would be searching for a seldom used character (a # for example) which you could then use as a marker for text that you need to return to or perhaps check on at some later stage.

THE LONG WAY ROUND

In ***First Word Plus***, for example, this would be accomplished by pressing Control C, representing the Control character, F (for find), a pause to allow the dialogue box to draw (Control P) the string in quotes ("#") and Control M for carriage return. Simple, isn't it?

Alternative desktops such as ***Neodesk***, ***KAOSdesk*** and ***Gemini***, not to mention later versions of the ST's operating system, also use keyboard shortcuts and most macro programs will work straight from the GEM desktop. This lets you automate many laborious sequences which makes life a lot more convenient. It's always easier to hit a single function key than a shifted alpha-numeric key.

Other applications have no keyboard shortcuts at all (or very few), and here a macro utility that will replay mouse movements is needed. Most STs still have TOS versions of 1.4 or earlier and there are no keyboard shortcuts available. A mouse-based macro utility

A complex but quick to install macro in Codekeys – it automatically calls up a file called FAX.DOC when both the F2 and left shift buttons are pressed together.

can be used to duplicate mouse movements and assign them to various keyboard combinations, but again there are quicker and easier ways of doing it. The PD utility ***DCDESKEY*** (South West Software Library Disk 1119) was designed for this very job and it assigns keyboard commands to all the standard GEM menu operations, saving time.

FAST MICE

It may seem odd to buy a computer with a built-in graphical user interface only to "convert" the mouse commands into keyboard ones! Strange as it may seem, there are plenty of people who use STs and who have never even seen the GEM desktop, preferring instead to use what are known as command line interfaces or CLI. Neodesk has an add-on CLI and the shareware desktop Gemini has an integral one.

Why anyone would want to swap the ease of use and intuitive nature of graphical ST filing operations for a screen display reminiscent of early DOS-based PCs is completely beyond me. It

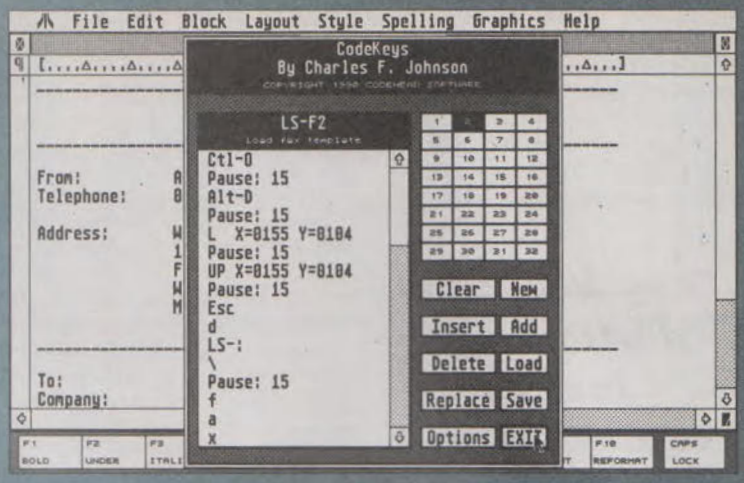
"Mouse Master's interface is well designed but can be confusing initially."

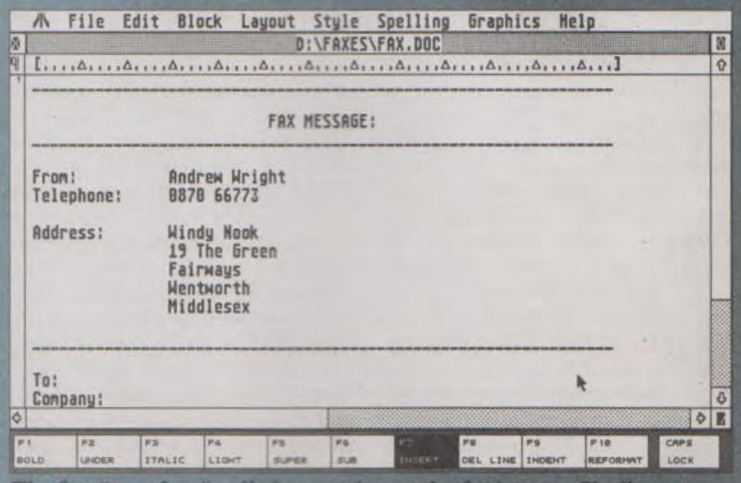
does speed up complex filing operations – for example a single command can usually copy all files with a *.PI3 extender into a deeply nested directory. The same operation might take several mouse clicks from the desktop.

LEARNING THE DIRECTIONS

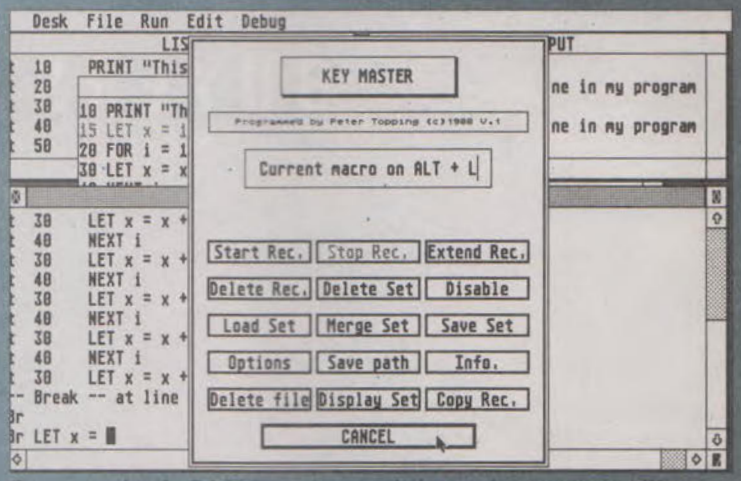
The same complex command could be achieved using a mouse-based macro utility such as ***Mouse Master*** or ***Codekeys***, but the thing to remember is that directories move around and where a mouse is told to click one day, it might

Writing a complex macro in Pagestream 2.4 – this one does a rapid full page preview.

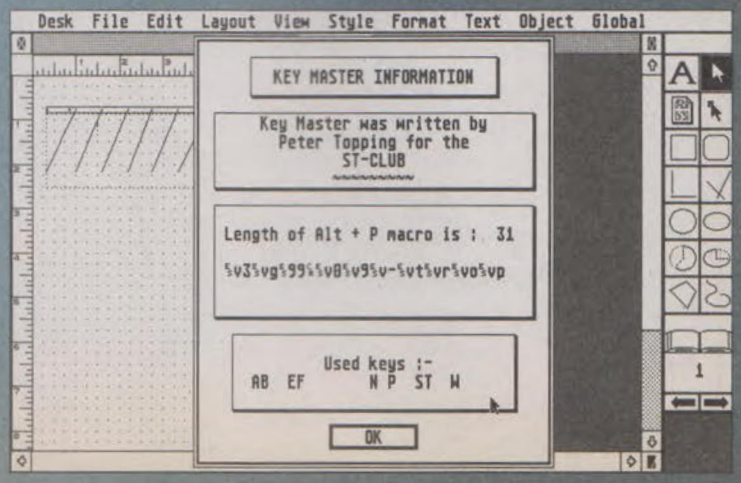




The fax "template" called up at the touch of a button. Similar macros can be set up for letters, invoices, articles – you name it.



Programming in BASIC can be speeded up using a macro utility such as Key Master – each keyword has a shortcut key press.



cause it to open a completely different directory the next.

Mouse Master is an accessory that can record up to 30 different sequences using either the function keys, shifted or unshifted, and the buttons 0 to 9 on the keypad. It uses an odd method of recording in that mouse movements are recorded as they are carried out but clicks and drags are programmed by pressing particular function keys. The ability to create macros involving drag operations is unique, but it is hard to imagine many uses for it. Perhaps one of the most useful is for testing hardware such as disk drives - copying operations can be automated and timed over several replays. ***Mouse Master*** also includes full documentation and a built-in, con- figurable mouse accelerator.

"Key Master is particularly fast at replaying any long key sequences."

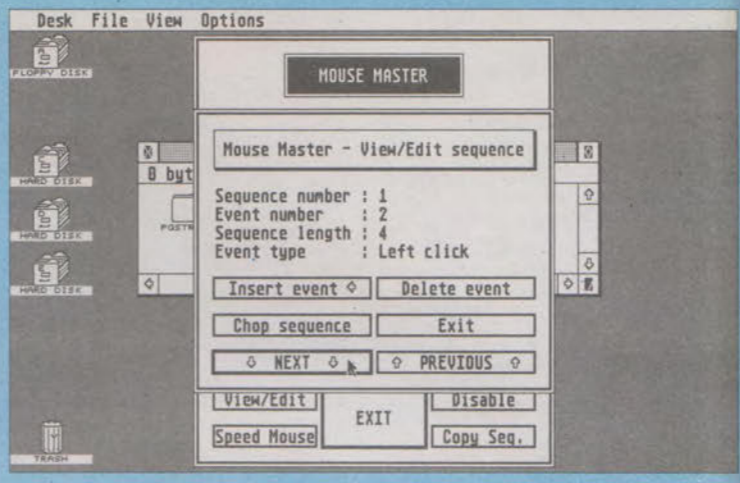
CODEKEYS – THE WORKS

If you want everything, ***Codekeys*** is undoubtedly the best of its kind available on the ST. Macros can be recorded and played back at any time, no matter whether you're in the middle of an application program or simply managing files on the desktop. It even works with many non-GEM programs.

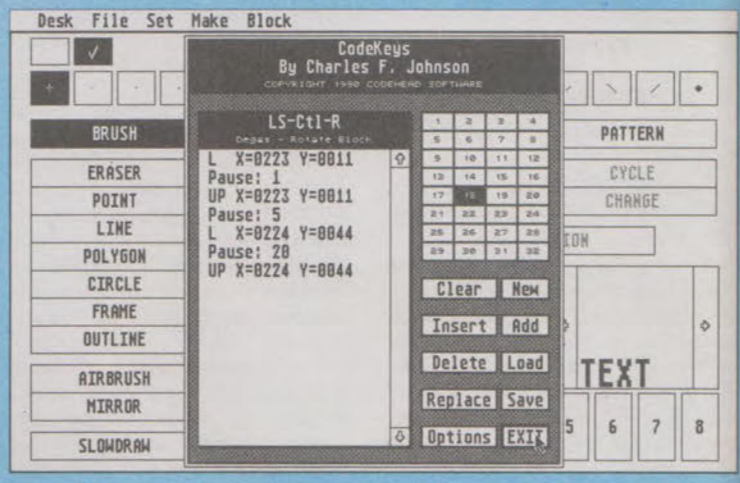
The only part of ***Codekeys*** that actually requires installing is an AUTO folder program but there is a desk accessory that lets you edit and create macros inside programs and another utility to make life easier. It creates automatic links so that whenever a given program is run, the relevant set of macros is loaded and ready to go.

Macros can be recorded directly from the keyboard using a hot-key combination, or created in the accessory and then subsequently edited. ***Codekeys*** has virtually every feature imaginable including comment fields for long macros and the ability to replay macros at predetermined times. There are also several ready made macro files supplied with the program, including ones for the GEM desktop, Timeworks DTP and Degas Elite.

If you want to experiment before buying a full commercial product, try ***DC_FKEYS*** (Disk 1898 from South West Software Library) which is a small freeware program that will let you program up to 49 key-related macros, both inside programs on the desktop. There's absolutely no excuse for not having a go now !



Mouse Master macros can even be used from the GEM desktop.



A useful Degas Elite macro supplied with Codekeys that helps cut down repetitive mouse movement.

BUYERS GUIDE

	Codekeys	Keys!	Mouse Master	Key Master
Machine required	Any 520 ST/STE	Any 520 ST/STE	Any 520 ST/STE	Any 520 ST/STE
Resolution	All	Medium/high	All	All
Installation	AUTO folder plus optional accessory	Accessory	Accessory	Accessory
Maximum events per macro	128	61	100	100
Macros loaded at a time	32	20	30	26
Play from GEM desktop	✪	✪	✪	✪
Play from within program	✪	✪	✪	✪
Record mouse movements	✪	-	✪	-
Keys programmable	Alpha-numeric and function keys	Function keys	Numeric and function keys	Alphabet keys only
Special characters	Any	Control, Alternate, C/R	-	All except Caps Lock
Enable/disable	✪	✪	✪	✪
Cut and paste sequences	✪	-	✪	✪
Use date and time	✪	-	-	-
Program links	✪	-	-	-
Use to insert text	✪	✪	-	✪
Use to autosave	✪	-	✪	-
Load via file selector	✪	✪	✪	✪ (1)
Company	System Solutions	System Solutions	ST Club	ST Club
Contact	0753 832212	0753 832212	0602 410241	0602 410241
Price	£29.95	£9.95	£9.95	£6.95
Rating	✪✪✪✪	✪✪✪	✪✪✪	✪✪✪

(1) = Only with suitable replacement selector

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ODD 07 THE WORLD OF STARTREK Over 300K of text interviews and biographies from the orginal STARTREK and NEXT GENERATION plus loads of pictures from both series. A must for all TREKKIES!!!.

ARC 04 TETRIS, superb tetris game (see review in issue 1 of this mag). KLAX TRIX, WELTRIS &TETSIDE, 3 more good games on the tetris theme. MR DICE, COLLAPSE & BURGER, 3 more good games to fill this super value disk.

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PD ZONE

This month we're kicking off our trip to the PD Zone with a look at the very best of the latest crop of games

BLOX

NEW AGE PDL ● DISK NO: ORDER BY NAME ● £1.50 ● MEMORY 0.5MB ● SHAREWARE

ATARI ST REVIEW ESSENTIAL BUY

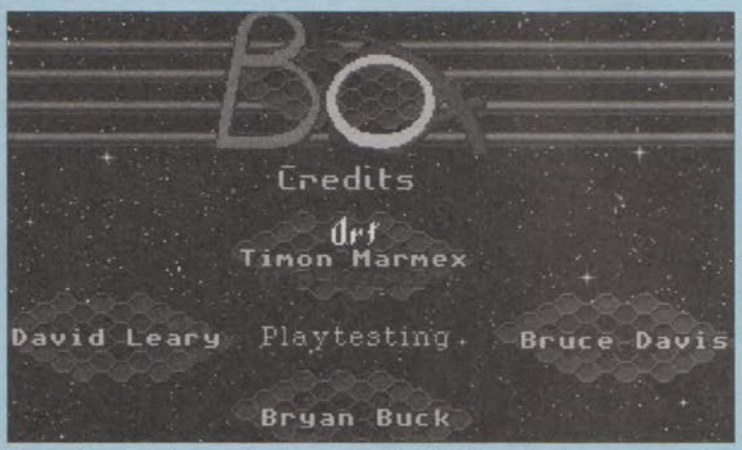
IN BRIEF: ***Blox*** takes the essence of Tetris and reworks it into a game so addictive, it's strange that the Government hasn't stuck a warning label on the disk. The game is played in a hexagon; bricks appear from each of the six corners randomly and the idea is to form a complete ring around a small central brick. Although you have semi-control over the bricks with the cursors, you need to be darn quick to move them into place before they crash into the wall. As with the original Tetris, it's easy to see what you've got to do, but actually carrying it out takes the patience of several saints!

Throughout the game the sound and graphics are incredible – crisp samples play along in the background without any visible slow-down on the screen.

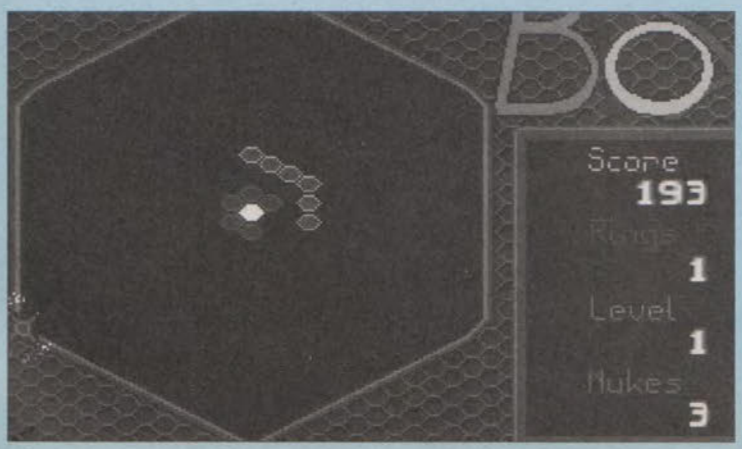
If you found ***Tetris*** mind boggling, then we can guarantee that ***Blox*** is going to finish you off!!

ST REVIEW COMMENT: "As soon as you see the colourful ***Blox*** logo spinning towards you in an arcade style, you know you're in for something special – it's ***Tetris*** for the insane!"

✪✪✪✪✪



An audio-visual treat from start to finish, Blox also sports gameplay that puts most commercial games to shame!



Blox – the revenge of Tetris. Six times more difficult; six times more addictive; six times more fun!

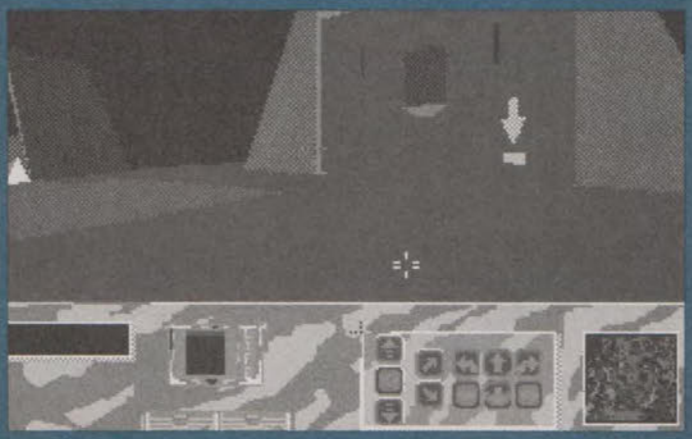
DARK CARPATHIAN

NEW AGE PDL ● DISK NO: C102 ● £2.95 ● MEMORY 0.5MB ● LICENCEWARE

IN BRIEF: The year is 1500; yet again somebody has pinched your girlfriend (no points for originality there!) and it's your job to sneak into Carpathian Castle and give the wicked king what for! But in order to do so you need to negotiate the cunning puzzles he's laid that will supposedly test the very vista of your intellect! The action is set in an eerie Freescape world which has been created using Domark's ***3D Construction Kit***. This generally works very well, although things tend to slow down to a crawl in some of the "busier" screens. It's a standard mix of pushing buttons and shooting objects to progress further, but they're not all straightforward – you're going to need all your wits about you for some of the trickier puzzles. Those interested will also find a complete source code for the game on disk.

ST REVIEW COMMENT: "***Dark Carpathian*** is one of the first ***3DCK*** games to capture the exciting atmosphere of the original Incentive Freescape games. It also makes a change to see the puzzles set at the right level."

✪✪✪✪



How do we get through the drawbridge? Could that huge arrow pointing to a button have something to do with it?

Deep inside the castle, Dark Carpathian's puzzles really start to hot up – I think it's time to call the Ghost Busters!

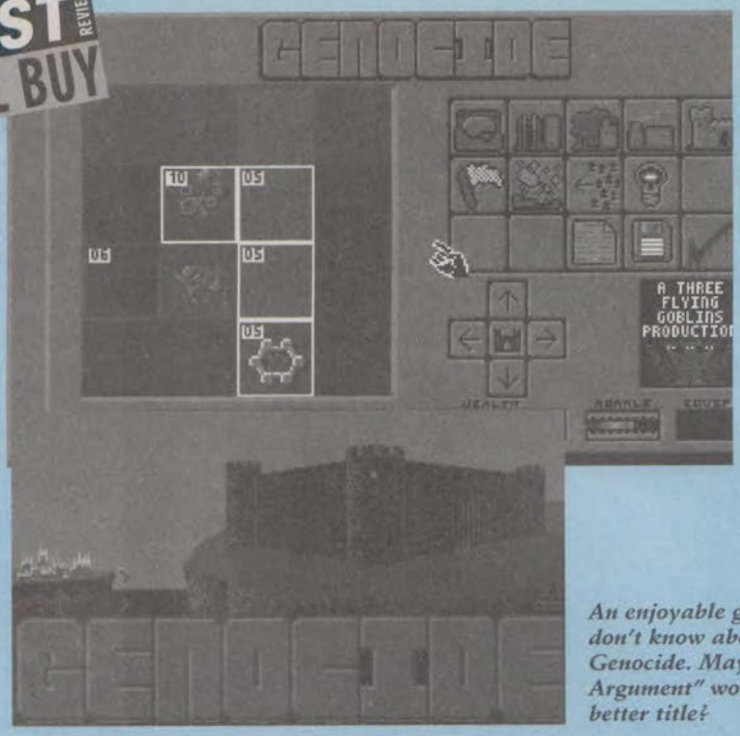
GENOCIDE

ATARI ST REVIEW ESSENTIAL BUY

NEW AGE PDL ● DISK NO: CI01 ● £3.95 ● MEMORY 0.5MB ● LICENCE-WARE

IN BRIEF: ***Genocide*** gives you the chance to unleash that megalomaniac streak by putting you in charge of an island based nation. Unfortunately, an opposing army also lives on your island, so you need to keep one step ahead by inventing new weapons, mining for gold to increase wealth and provide food for your growing population. The ultimate aim of the game is to wipe out the opposing army and become king of the island. Every now and again an event card will appear which you can play against your enemy – heatwave, thunderstorm, black death and a whole host of other nasties (seem familiar?). It all sounds very hectic but the game is actually quite relaxing to play, in a strategic kind of way. The action area occupies around a sixth of the screen and needs to be scrolled to reveal more of the island, but this leaves plenty of room for large "activity" icons.

ST REVIEW COMMENT: "Apart from the small play area, ***Genocide*** is a worthy competitor for any of the commercial "god" games. The play method is also less involved and therefore more enjoyable."
✪✪✪✪✪



World domination awaits my people! You too can get carried away in megalomania with a copy of Genocide.

An enjoyable game, but I don't know about Genocide. Maybe "Heated Argument" would be a better title?

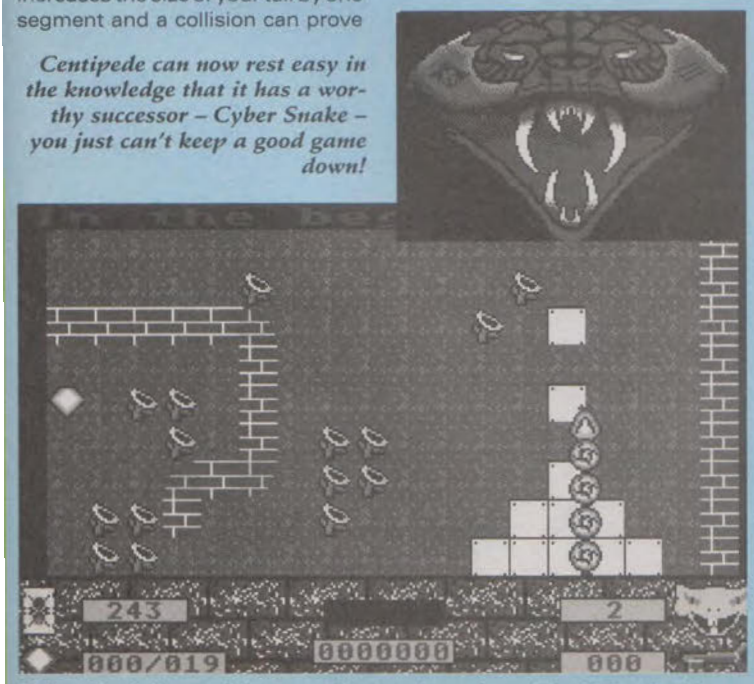
CYBER SNAKE

NEW AGE PDL ● DISK NO: GAME 80 ● £1.50 ● MEMORY 0.5MB ● SHAREWARE

IN BRIEF: Everybody must have played a variation on the classic ***Centipede*** theme at some time or another, so fans of the original game will be pleased to hear about ***Cyber Snake*** – ***Centipede*** revisited, 90s style! The gameplay remains very close to its roots – you (as a snake) find yourself in a maze full of life giving crystals. The only problem is that each crystal you eat increases the size of your tail by one segment and a collision can prove fatal! As the game progresses things speed up to a breakneck level and you're going to need demon reflexes to keep up! But it's the graphics that have been given a real 90s revamp. No longer is the whole maze on-screen. Instead, the snake is bigger and the area scrolls quickly to reveal more and more obstacles. Oh, to have more games with gameplay!

ST REVIEW COMMENT: "***Cyber Snake*** brings back memories of long hours spent playing ***Centipede*** in a greasy fish and chip shop and all without making your ST look like a Spectrum – well worth getting hold of!"
✪✪✪✪

Centipede can now rest easy in the knowledge that it has a worthy successor – Cyber Snake – you just can't keep a good game down!



Cyber Snake's graphics are a far cry from the original Centipede, witness level 1 (yep, it's that difficult!).

PLAX ATTACK

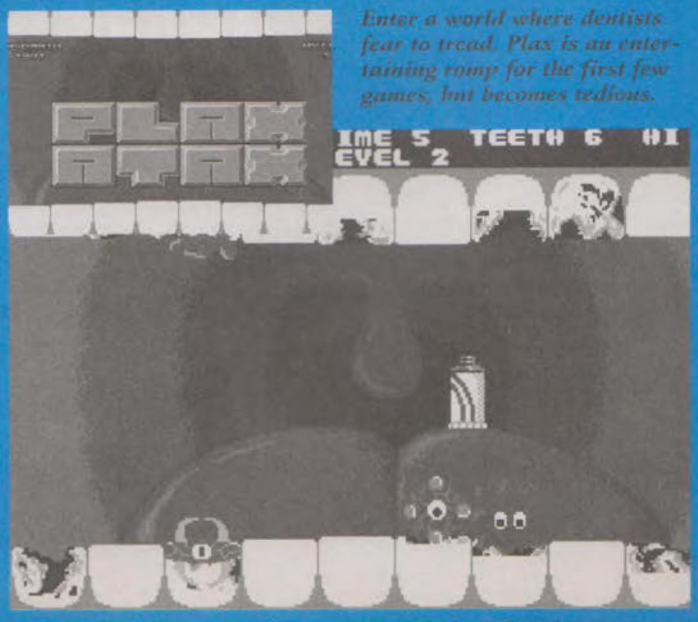
MERLIN PD ● DISK NO: MPD0824 ● 99p ● MEMORY 0.5MB ● PUBLIC DOMAIN

IN BRIEF: ***Plax Attack*** is an arcade game with an educational twist. Aliens and spaceships are out, teeth and toothpaste are in – makes a change to see a pacifist shoot-'em-up! After the obligatory intro screen you're presented with a mouth – undecayed teeth running along the top and bottom of the screen – and a small tube of toothpaste in the centre. Germs appear and begin to destroy the digitised gnashers. It's your job to point the paste in the right direction and squirt them with a dob of the old Colgate before they get too far.

If you survive a set period of time without too much decay you move on to the next level where the germs are quicker and so on throughout the game. It's an addictive little number: the graphics are bright and colourful, adding a cartoon atmosphere, but the sound – in common with many ***STOS*** games – is dire.

ST REVIEW COMMENT: "***Plax***'s gameplay is simple and ideal for younger players, but the educational value is limited and it's not likely to have very long-lasting appeal."
✪✪

Enter a world where dentists fear to tread. Plax is an entertaining romp for the first few games, but becomes tedious.



Blast all of the germs with toothpaste before they destroy your perfect gnashers; and then start all over again on the next level!

PD ZONE

Schools are back and colleges are getting ready for the next influx of students. ST Review goes back to school with a look at educational Public Domain

GFA EXPERT VERSION 2

ATARI ST REVIEW BUDGET BUY

ST CLUB ● DISK NO: GFA.09 ● £1.45 ● MEMORY 1MB ● FREEWARE

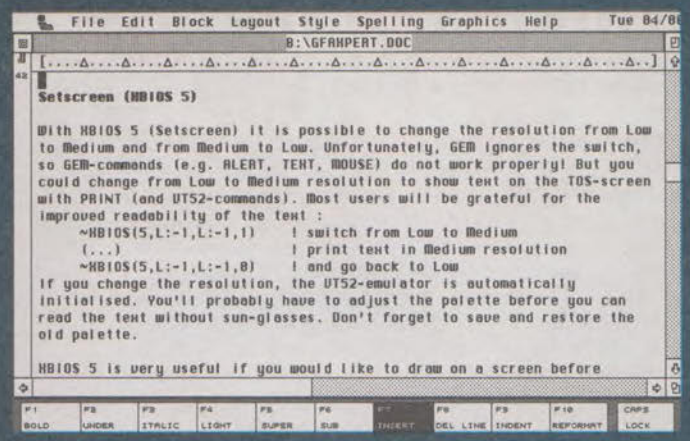
IN BRIEF: Billed as "Everything you ever wanted to know about ***GFA Basic Version 3***, but were afraid to ask", ***GFA Expert*** certainly has quite a name to live up to! What you will find on the packed double-sided disk is a 200K+ ***First Word Plus*** document which contains the tutorial itself and a huge library of routines that are designed to support the text. Many of these routines are procedures that can be easily integrated into your own programs if you so wish.

The style of the tutorial is chatty but it won't teach you how to program from scratch. Rather, it's taken for granted that you know a little about ***Basic***, and some of the examples are quite complex. It also tends to focus on TOS and GEMDOS rather than GEM's AES and VDI.

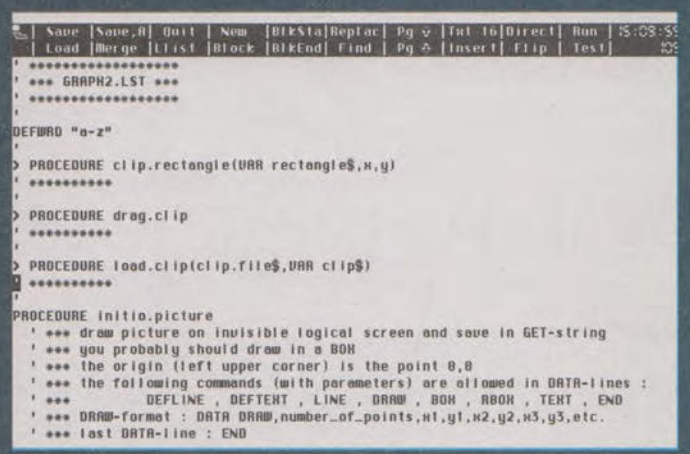
One thing is for sure – Han Kempen deserves a medal for releasing this lot for free!

ST REVIEW COMMENT: "***GFA Expert*** is what the GFA manual should have been. Practical examples are given to support all text and many of the topics that are not even touched upon in the manual are fully explained."

✪✪✪✪✪



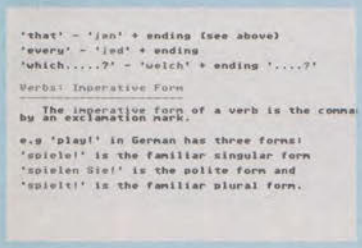
Even the techiest topics are given an airing in the gargantuan GFA Expert.



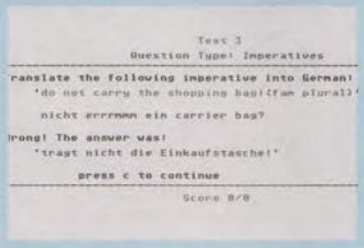
On disk you'll find a huge selection of ready-made GFA procedures to slot into and improve your own programs immediately.

ELEMENTARY GERMAN

NEW AGE PDL ● DISK NO: UTIL.33 ● £1.50 • MEMORY 0.5MB ● SHAREWARE



Turn unintelligible, foreign PD into useable software with some help from Elementary German.



When you think you're up to it, live dangerously and take the test.

IN BRIEF: With more and more PD and shareware pouring across the channel every month, a knowledge of the German language is a real advantage for any ST owner.

Could ***Elementary German*** be an easy solution? The method of teaching is the standard "read some lessons and then answer questions" approach. This works quite well, but you can't help thinking that a decent text book would offer the same, and that better use could be made of the medium.

Text display is not GEM'ed but uses colour throughout to highlight the main points, which is far easier than wading through pages and pages of boring monochrome. The shareware demo only provides three topics – grammar and basic vocabulary, at work and school, and the high street – beyond which point you have to pay £10 for the full version.

ST REVIEW COMMENT: "***Elementary German*** offers a good introduction to the German language, but fails to cover the computing terms that would be of most interest to ST users. More use could also be made of the ST's graphics."

✪✪✪

SPIDER SPELL

ATARI ST REVIEW BUDGET BUY

L.A.P.D. ● DISK NO: PRO.25 ● £2.00 • MEMORY 0.5MB ● SHAREWARE

IN BRIEF: ***Spider Spell*** is an unashamed ***Hangman*** clone, minus the violence. The plot goes something like this: The three bug brothers love dancing, but somebody has stolen the power cord for their radio! The snake sisters agree to help by forming a replacement cord, but expect the brothers to pay by solving three letters games – this is where you come in, to help the bugs to solve the puzzles. Each time you choose a correct letter, Sammy Spider puts it in place, but make a mistake and Betty Beetle is forced to come along and burn it. Complete three correct words without too many mistakes and you are rewarded with the three brothers boogying away to their repaired radio.

The game is entirely mouse driven and accompanied by some great sampled sound effects. The level of play can be selected by choosing the length of words – from three to eight letters.

ST REVIEW COMMENT: "It makes a change to find an educational game that's pitched at the right level. The puzzles are challenging for younger players and the rewards are entertaining."

✪✪✪✪✪

Pick the letters, guess the word and help the bug brothers to repair their radio – yep, Spider Spell's plot is just non-stop action for kids.

THE WORLD OF STAR TREK

WIZARD PD ● DISK NO: ODD7 • £2.25 ● MEMORY 0.5MB ● SHAREWARE

"It's no good looking innocent Mr. Data. With a face that colour, it's obvious you've been at Deanna's make-up again!"

IN BRIEF: When it comes to cult TV programmes, they don't come much more way out than ***Star Trek***, and the same can be said about the fans! They just can't seem to get enough interviews, character profiles and pointless facts about the series. If the above describes you, it could be your lucky day because ***The World of Star Trek*** takes Trekkiedom to new heights. In fact, if it's ***Star Trek*** or ***Next Generation*** related, you're likely find it covered on this disk. Interviews with the actors, quizzes, broadcast times and even a solitary scene cut from the script of ***Star Trek V*** are all included, together with a ***Next Generation*** slideshow. The whole thing is wrapped up in a disk magazine type shell.

ST REVIEW COMMENT: "Only in the public domain could you find a whole disk of text dedicated to ***Star Trek***! Hardened Trekkies will be in their element, but even casual fans will find something of interest."

✪✪✪✪

Test your knowledge of Star Trek old and new with The World of Star Trek – Trekkie or just "Gone with the Wind" fan?!

STATES AND COUNTIES

ST CLUB ● DISK NO: GBU.98 ● £2.50 ● MEMORY 0.5MB ● LICENCEWARE

IN BRIEF: ***States and Counties*** comprises five programs, each helping you to learn the state names of a particular country. Sections for England, Ireland, Scotland, Wales and the USA are included on the disk – if you want to learn more than that, you're beyond help!

Each section contains a picture of the country and an answer box. A roving arrow points at a random county and it's your job to type the name correctly or suffer eternal humiliation! You get three tries in all – one with no clues, the second with a hint and the third, which wouldn't even tax an ***Eldorado*** fan.

Get the question right and you are rewarded with some county statistics. At the end of each session – the length of which can be as long or as short as you like – a comment is made on just how well you did.

ST REVIEW COMMENT: "***States and Counties*** is an extremely well designed educational program. The graphics are beautiful and it's enjoyable to play and guaranteed to improve anyone's knowledge."

✪✪✪✪✪

The game screen – get the answer wrong and you'll be prompted with a simple clue.

SEVEN GREAT LESSONS TO LEARN

1

GFA EXPERT VERSION 3 ● ST CLUB ● DISK NO: GFA.09 ● £1.45 ● MEMORY 1MB ● FREEWARE

GFA Basic explored in a comprehensive (200K+) ***First Word Plus*** document. ***GFA*** freaks look no further!

2

SPIDER SPELL ● L.A.P.D. ● DISK NO: PRO.25 ● £2.00 ● MEMORY 0.5MB ● SHAREWARE

A lovely implementation of ***Hangman*** for younger players. The controlling icons are large enough to make playing the game easy, even for infants.

3

STATES AND COUNTIES ● ST CLUB ● DISK NO: GBU.98 ● £1.45 ● MEMORY 0.5MB ● LICENCEWARE

An informative program to help you improve your knowledge of British and American counties (you'll be surprised at just how many there are). The graphics are expertly drawn, and although there is no tutorial as such – you have to learn by repeatedly failing the test – ***States and Counties*** is quite simply brilliant!

4

THE WORLD OF STAR TREK ● WIZARD PD ● DISK NO: ODD7 ● £2.25 ● MEMORY 0.5MB ● SHAREWARE

The World of Star Trek carries everything you ever wanted to know about ***Star Trek*** and plenty more besides. Complete descriptions of all the main characters are included, together with hundreds of other facts and figures about the series.

5

TYPING TUTOR ● ST CLUB ● DISK NO: WPR.34 ● £1.45 ● MEMORY 0.5MB ● PUBLIC DOMAIN

Learn to touch-type the easy way with ***Typing Tutor***. Select the level of skill, get some practice in and then move on to a game of ***Word Invaders***! Ideal for all ages and bound to cause competition on a thermo-nuclear scale!

6

STOS TUTORIAL ● RIVERDENE PDL ● DISK NO: LAN508 ● £2.50 ● MEMORY 0.5MB ● PUBLIC DOMAIN

A handy ***STOS*** basic program which will sit as an accessory in memory alongside your program before you.

7

THE USER GUIDE TO MIDI & MUSIC ● DISK NO: MID.48 ● £1.45 ● MEMORY 0.5MB ● PUBLIC DOMAIN

A nice introduction to the concept of MIDI and its many applications. Although it's not likely to be much use to the hardened MIDI'ite, UGTM&M is ideal for beginners.

PD ZONE

Everyone wants to fine-tune their ST on the cheap. PD utilities offer the best value for money...

PD UTILITIES

NT-MODULE COMPILER

FLOPPYSHOP ● DISK NO: MUS.3016C ● £2.50 ● MEMORY 1MB RECOMMENDED ● PUBLIC DOMAIN

IN BRIEF: The last year or so has brought a huge improvement in sound quality on the ST, mainly thanks to conversions of Amiga packages such as ***Noisetracker*** and ***Digi-Composer***. But, great as they may sound, emulating Amiga sound hardware on the ST is a time-consuming business, slowing the machine down by 20 to 50 per cent would you believe?! ***NT-Module Compiler*** aims to solve this problem by loading up the Amiga "MOD" files and converting them into an ST(e) friendly "SEG" format. Not only are the resulting modules less demanding on your ST, they also sound better and the frequency of playback can be user defined, right up to a magnificent 50Khz!

The only disadvantage of higher frequencies is the file size. The program itself is fully GEM-based and as such looks very professional. Compiling a module can take some time, especially at higher frequencies, but generally the results are worth waiting for.

ST REVIEW COMMENT: "A sleek program which will appeal to programmers everywhere, and with any luck a game with a stonking "SEG" soundtrack will be cruising this way soon."

✪✪✪✪

DC BACKSPACE HELP

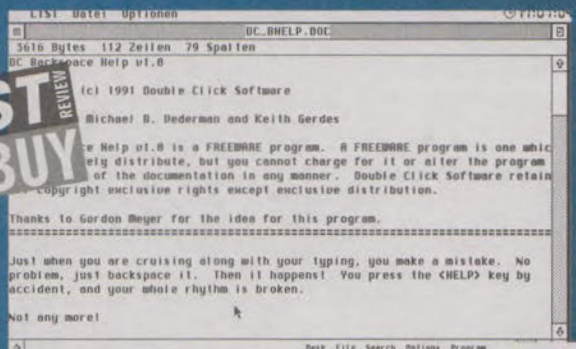
ATARI ST REVIEW BUDGET BUY

ST CLUB ● DISK NO: DMG.25 ● £1.45 ● MEMORY 0.5MB ● FREEWARE

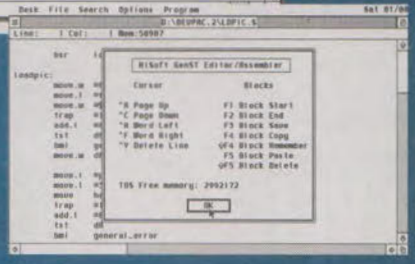
IN BRIEF: If there's one fatal flaw with the ST's keyboard it has to be the Help key's close proximity to Backspace. It only takes a mistaken prod of Help in a program like Devpac 2 and BANG - up pops a dialogue box and your flow is completely destroyed. Until now, that is! DC Backspace Help takes on the simple task of sending a Backspace key-code every time you hit Help. And don't worry, you won't lose the use of your "Help" key completely, because pressing Control and Help will return it to normal. DC Backspace Help is the latest in a series of nifty little programs from American ST gurus Double Click, a large number of which can be found on ST Club's DMG.25. All in all, it's an essential disk for anyone serious about their ST.

ST REVIEW COMMENT: "A simple yet brilliant program which will help typists no end. It also only occupies a measly 820 bytes, making it one of the smallest essential utilities ever!"

✪✪✪✪✪



Pop DC Backspace Help in your AUTO folder and you'll only see this fellow when you really do need help!



Just one in a huge collection of handy utilities, DC Backspace Help comes with full documentation (as if we needed any!)

SOUND MERLIN

ATARI ST REVIEW BUDGET BUY

GOODMAN ENTERPRISES ● DISK NO: GD1638 ● £2.75 ● MEMORY 0.5MB ● SHAREWARE

IN BRIEF: What do you do with a commercial sample editing suite that everybody has forgotten about, although it still puts many modern packages to shame? The answer is to release it as shareware. And that's exactly what Tommy Software, best known for its excellent ***Megapaint 2***, has done with ***Sound Merlin***. This is one of the best sampling packages available for the ST. It is actually far more than just a "sample editor" because it offers many other features. In addition to the usual editing facilities you get a full blown sequencer, drum pattern editor and a sampling suite that allows you to grab sounds from within Merlin itself! A swift click of the piano icon will let you assign some of your samples to the keyboard for a real explosion of sound - just forget about what the neighbours will think!

ST REVIEW COMMENT: "***Sound Merlin*** will give any ageing sampler a whole new lease of life, but as it was written back in 1989, you won't find any support for the DMA sound offered by STe and TT."

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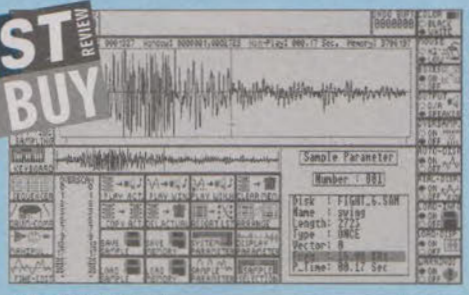

With more options than a Cadbury's factory, Sound Merlin must rate as the ultimate shareware sound utility.

Merlin's sequencer allows you to string complex sets of samples together and play them back with a single click of your mouse.

NEW GENERATION

NEW AGE PDL ● DISK NO: UTIL22 ● £2.75 ● MEMORY 0.5MB ● SHAREWARE

IN BRIEF: If you've got no end of patience and a lust for browsing through musty old books then you're probably an avid genealogy freak already, and ***New Generation*** could be right up your street. For those thinking of starting to explore their roots, the first thing you need to know is that genealogy packages won't help you to actually sort through mountains of paperwork and ***New Generation*** is no exception. What they can do is to manage any information that you dig up on your family - possibly making it the ultimate "relations" database!

Unlike its PD competition, Generation also handles the tree diagrams themselves - beats a pen and paper. Rather than use GEM, the programmer has chosen to stick to a PC-style text-only display throughout. Despite this limitation, the package is still easy enough to use and could be the start of an interesting new hobby.

ST REVIEW COMMENT: "Although this is a competent program, New Generation goes one step too far in completely ignoring the ST's GEM interface - one for die-hard genealogists only."

✪✪

FASTBASE VERSION V2.4

GOODMAN ENTERPRISES ● DISK NO: GD1631 ● £1.50 ● MEMORY 0.5MB ● SHAREWARE

IN BRIEF: ***FastBase*** has long been considered the king of shareware databases, so it will come as no surprise that version two builds on that reputation by adding a whole host of new features. The easy-to-use graphical control panel remains intact and now holds the extra power of a built-in structured programming language known as ***FBML*** (***FastBase Macro Language***), which is similar in many ways to ***GFA Basic***. This automates many of the tasks that would have to be typed manually in earlier versions. Also added is a Graph Manager which gives you the opportunity to chart your data. Although the results are undoubtedly good, this is tricky to operate - a shame when you consider that part of ***FastBase***'s reputation is built on ease-of-use! The shareware version limits you to 20 fields and a file size of 10K.

Ideal for the small business, FastBase 2 now claims its own built-in programming language.

ST REVIEW COMMENT: "With the addition of ***FBML***, ***FastBase*** is transformed from a simple home database into a commercial quality package."

✪✪✪✪

SUPERBOOT VERSION 7.4

ATARI ST REVIEW BUDGET BUY

SOFTVILLE ● DISK NO: ACC82 ● £2.00 ● MEMORY 0.5MB ● SHAREWARE

IN BRIEF: A hard disk is simply the best addition you can make to your ST set-up, but how can you make sure that from the many hundreds of accessories and utilities you may have, only those you need are loaded? ***Superboot*** is the answer to this worry and many more besides! Getting going is easy - just pop the program in your AUTO folder and reboot. Now every time you start your ST, you will be presented with a menu allowing you to choose which AUTO programs to run, which accessories to load, and what resolution you want to use. Password protection can also be added for security. It's likely you'll find certain packages always need certain utilities - ***Timeworks*** and ***GDOS*** are two examples. If that's the case, you can persuade Superboot to load up whatever accessories you want to run for ***GDOS*** and ***Timeworks*** — all available on a single function key.

ST REVIEW COMMENT: "It has always been good, but version 7.4 is incredible! You simply can't buy a better value program to manage your hard disk than ***Superboot*** - you NEED this utility!"

✪✪✪✪✪

TEN UTILITIES YOU CAN'T AFFORD TO MISS

1

SUPERBOOT 7.4 ● SOFTVILLE ● DISK NO: ACC82 ● £2.00 ● MEMORY 0.5MB ● SHAREWARE

The ultimate hard disk utility, ***Superboot*** allows you to select which AUTO folder programs to run, which accessories you want to load and what DESKTOP.INF/ASSIGN.SYS files to use.

2

FASTCOPY III ● SOFTVILLE ● DISK NO: ACC96 ● £2.00 ● MEMORY 0.5MB ● FREEWARE

FastCopy III is simply the best copying system available for the ST (bar its commercial big brother ***FastCopy Professional***). In its list of many features are the ability to copy one format disk to another and integral virus killer.

3

SOUND MERLIN ● GOODMAN ENTERPRISES ● DISK NO: GD1638 ● £2.75 ● MEMORY 0.5MB ● SHAREWARE

A professional sound editing suite at a give-away price! ***Sound Merlin*** is capable of some stunning audio effects.

4

IDEALIST ● FLOPPYSHOP ● DISK NO: UTL.3021 ● £2.50 ● MEMORY 0.5MB ● SHAREWARE

Idealist gives you complete control over your printer providing columns and full use of your printer's internal fonts. A special accessory version is also supplied to let you use ***Idealist*** from within your favourite word processor.

5

FASTBASE 2 ● GOODMAN ENTERPRISES ● DISK NO: GD1631 ● £2.75 ● MEMORY 0.5MB ● SHAREWARE

An easy to use, fully GEM'ed database. Graphics are fully supported and can be overlayed with records to give an almost multimedia appearance to the windows.

6

MONSTER ● FLOPPYSHOP ● DISK NO: UTL308 ● £2.50 ● MEMORY 0.5MB ● PUBLIC DOMAIN

This utility makes your ST think its screen is larger than it is. Instead of seeing the whole screen, you just see a window on a larger "virtual" display. Move the mouse and the screen scrolls smoothly to reveal more, giving a resolution of 1280x800 on a high resolution monitor.

7

DESKJET SUPPORT DISK ● FLOPPYSHOP ● DISK NO: UTL405 ● £2.50 ● MEMORY 0.5MB ● PUBLIC DOMAIN & SHAREWARE

This disk contains HP DeskJet drivers for more or less all of the popular ST packages.

8

GEMINI 2 ● FLOPPYSHOP ● DISK NO: UTL400 & 401 ● £5.00 ● MEMORY 1MB ● SHAREWARE

The follow-up to the powerful Desktop replacement includes a new set of icons, the ability to assign custom icons to a single file and a recoverable trash can.

9

MAXIDISK ● COMPUTER CONNECTIONS ● DISK NO: 885 ● £1.60 ● MEMORY 0.5MB ● SHAREWARE

A reset resident RAM disk which can compress everything you put in it! ***MaxiDisk*** works like any other RAM disk, but you can squeeze up to 25 per cent more files in without even lifting a finger.

10

NTMODULE COMPILER • FLOPPYSHOP • DISK NO. MUS3016C • £2.50 • MEMORY 1MB RECOMMENDED • PUBLIC DOMAIN

Turn your MOD files into an ST/STE friendly SEG format with ***NT-Compiler***. The program is easy to use and allows you to view, play and edit the resulting waveform before committing it to disk.

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GETTING STARTED WITH FIRST WORD PLUS PART TWO

In the second of his three-part series, Andre Willey looks at graphics handling and how to set up your own customised printer driver

These days very few printers can genuinely be described as standard. To get the most out of your printer you will need to install a special printer driver which understands the various features your printer has to offer.

A number of printer drivers are supplied with ***First Word Plus***, and it is quite likely you will be able to find the one you require and install it immediately. All of these printer drivers are in a folder called PRINTERS, and have filenames ending with .CFG. If you see the one you want, simply copy it into the same folder as the ***First Word Plus*** program file, and rename it to PRINTER .CFG. When you next load ***First Word Plus*** it will look for this file and use it to set up the printer settings. As confirmation, the name of your new printer should appear at the top of the character selection area.

This is all well and good if your printer is in the standard set provided by GST – but what happens if you've just purchased the latest super-snazzy wibble-jet printer from Japan? Are you up the proverbial creek without a paddle?

STARTING FROM SCRATCH

Thankfully, no. It's possible to create your own printer drivers from scratch – although it's usually simpler to find a similar printer which is supported, and edit that to add the latest features.

These printer configuration files can be found in the INSTALL folder, as file names ending with .HEX. Although they look daunting when you load them into ***First Word Plus***, they aren't as complex as they appear. Just remember that anything after an asterisk is treated as a comment, and will be ignored.

The first non-comment line in the file contains the name of the printer. The next one contains six numbers, separated by commas. These control certain master settings which define the type of printer:

- Printer Type (0 for dot-matrix, 1 for daisywheel)
- Unit Width (normally set to 0 for dot-matrix printers)
- Unit Height (height of characters, in printer's own units)
- Graphics Resolution (number of dots per inch in graphics mode)
- Shift for Bold (not required for dot-matrix printers)
- Pause Between Pages (set to 1 to stop to change paper after each printed page)

The subsequent lines define which "hexadecimal" codes should be used to activate different features of your printer. These codes will be listed in your printer manual, but as an example let's assume that your printer uses the codes "Escape" + "E" to turn bold printing on, and "Escape" + "F" to turn it off again. "Escape" is code 1B in hexadecimal, and "E" and "F" are 45 and 46 respectively – so the portion of the configuration file for options 6 and 7 (Bold On and Off) would look like this.

6, 1B,45 * Draft bold on 7, 1B,46 * Draft bold off

If your printer uses different codes for bold text in Near Letter Quality mode, settings eight and nine are used to define these. There are over 50 other options available, all of which are defined in the ***First Word Plus*** manual.

CHARACTER ANALYSIS

The final section of the configuration file tells ***First Word Plus*** which characters the printer is capable of printing, and how to access them. For example, some international characters will require the printer to switch into a new mode, print, then switch back again.

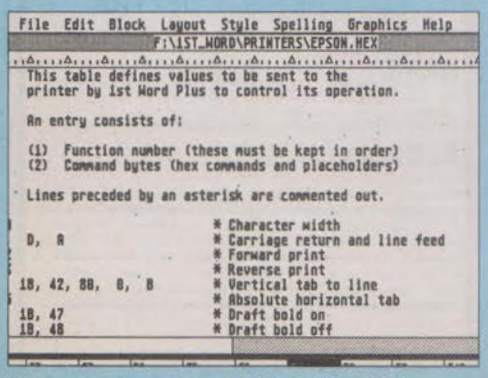
To create an "e" with an acute accent you might use the sequence "Escape" + "R" + 1 to enable the French character set, then send character number 7B to print the letter itself, then switch back to standard mode with "Escape" + "R" + 0. In the configuration file this would appear as follows:

82, 1B, 52, 1, 7B, 1B, 52, 0 * Ç - French

Once you've finished defining the codes for your printer, save the new .HEX file back to disk and run the supplied INSTALL .PRG program to convert it into a ***First Word Plus*** printer driver (.CFG) file. You may wish to rename it to PRINTER.CFG (described above), if you want to use it each time you run ***First Word Plus***.

AND TO FOLLOW. . .

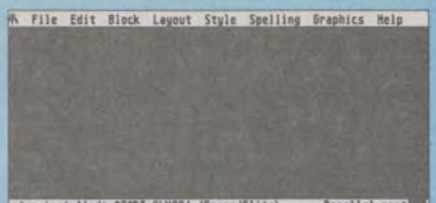
In the final part of this tutorial next month, we'll show you how to use ***First Word Plus***'s powerful mail merge system to create standard letters and documents, and then customise them to individual requirements – for example to send out a mailshot.



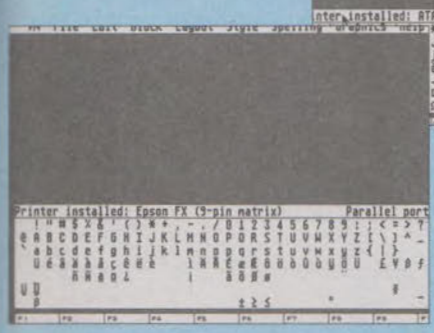
To customise your own First Word Plus printer driver, first create or edit a new printer configuration text file and save it back to disk under a new name.

Next, run INSTALL .PRG and use the file selector to specify the .HEX file you wish to turn into a printer driver.

When Install has done its work you will be left with a printer driverfile with the extender .CFG – in this case, EPSON.CFG.



To load a new printer driver into First Word Plus, you simply click on the "Printer Installed" line at the top of the character selection area.



The new driver name will be confirmed at the top of the character selection area – which will now show just those characters available in your newly defined printer driver.

PRINTER CONFIGURATION FILES

This is a small segment of a printer configuration file. These files may be edited in First Word Plus to reflect the codes used by your own printer.

PRINTER NAME

Epson (9-pin NLQ dot-matrix)

CONFIGURATION VARIABLES

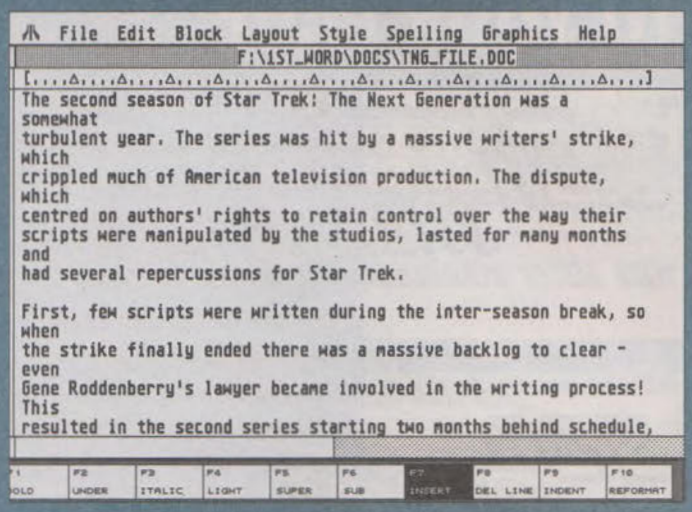
0, 0, C, 48 ,0, 0

PRINTER CHARACTERISTICS

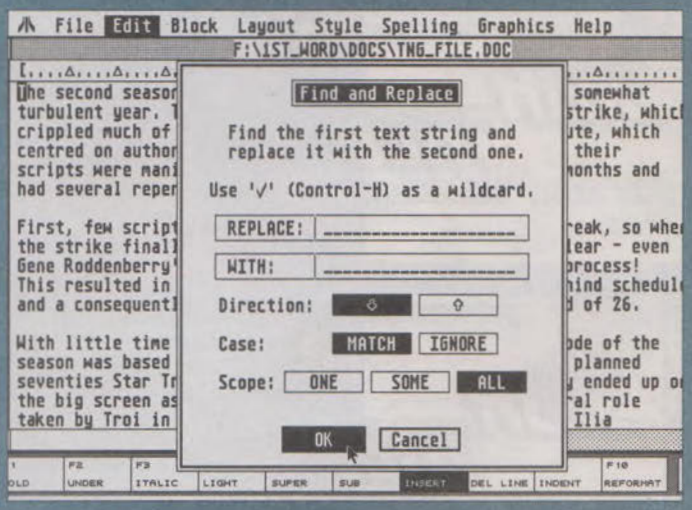
*1, D, A	Carriage return + line feed
2	Forward print (not used)
3	Reverse print (not used)
4, 1B, 42,80,0,B	Vertical tab to line
6, 1B,45	Draft bold on
7, 1B,46	Draft bold off
8, 1B,45	NLQ bold on
9, 1B,46	NLQ bold off
A, 1B,34	Draft italic on)
1E, C	Formfeed
1F, 12	Horizontal initialization
20, 1B,52,0	Vertical initialization
21, 1B,40	Termination: printer reset
22, 8	Backspace
23, D	Carriage return
24, 1B, 43, 80	Form length in lines
25, 1B, 41, 80	Set line feed to N units
26, 1B, 2A, 5	Start graphics (mode 5)
34, 1B, 41, 12	1.5 Line feed (18/72 inch)
35, 1B, 70, 1	Proportional spacing ON
36, 1B, 70, 0	Proportional spacing OFF
0	NULL termination byte

ADDING FOOTNOTES

Footnotes add a professional look to all your documents



If re-formatting an ASCII document results in a mess like this, you'll need to convert the ASCII spaces into First Word Plus's variable size space system.



The Search and Replace dialogue can be used in WP mode to replace the current ASCII spaces with First Word Plus's internal versions.

There are occasions when it's necessary to create footnotes in your document. With ***First Word Plus***, you can create notes very simply, and keep track of each one automatically - ensuring that it is always printed at the bottom of the appropriate page, even if you add or remove text in the meantime.

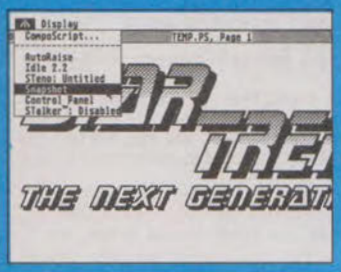
Move the cursor to the position where you want the footnote. Select the "Add Footnote" option from the Layout menu and a footnote window will opene at the bottom of the screen. It will automatically be assigned the next available footnote number which will be inserted into the main text as a superscripted numeral.

Now edit your footnote, making sure you leave the first three character positions blank to allow the number to be added automatically when you print the document. Your footnote can be several lines long and you can give it a different type-style or width by clicking on the paragraph icon near the top left of the window. When you've finished, close the footnote window to return to the main document.

When you print the document, each footnote will appear at the bottom of the page to which it refers. If you wish to change the separator line used to space footnotes away from the main text, select the "Footnote Format" option from the Layout menu.

STEP BY STEP

ADDING GRAPHICS TO YOUR PAGE

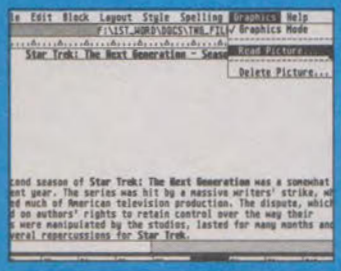


1 Before you can load a picture into a First Word Plus document it has to be converted to the GEM Image format (which uses a file name extender of .IMG). If your art program does not support this format you can use the SNAPSHOT ACC desk accessory (supplied with First Word Plus) to save any portion of your ST's screen as an Image file - in this case, a displayed Post Script image is to be saved.

2 When you select the Snapshot item from the drop down accessory menu an alert box will appear. Click on the OK button to confirm that you want to save a portion of the current screen as an Image file.

3 The alert box will vanish, allowing you to use the mouse to point to the top-left corner of the area you wish to save. Hold down the left mouse button and drag the dotted rectangle to define the shape you want to save. When you release the button a file selector box will appear, allowing you to choose a file name for the image.

4 If your drawing package can save Image files directly, there is no need to use the Snapshot facility unless you only require a small portion of the picture. Here, Atari's Hyper Paint program is being used to edit a picture before saving it as a .IMG file.



5 Once you have created the Image file - using either of the above methods, or even directly from a scanner - you can run the First Word Plus program and load your document. Select "Graphics Mode" from the Graphics menu, then select "Read Picture". A file selector will appear, allowing you to choose an Image file to load.

6 The picture will now be merged into the document and may be moved around the page using the mouse. To temporarily remove the picture from the display, click a second time on the "Graphics Mode" entry in the Graphics menu.

LOADING EXISTING TEXT INTO YOUR DOCUMENTS

First Word Plus can load two types of text file: Word Processor documents and plain ASCII text files. The main difference between them is that ASCII files contain just plain vanilla text (words, numbers and punctuation), whereas a word processor documentmay also contains type-style information, page-breaks, justification, line spacing, tabulation and so on.

You will probably spend most of your time editing word processor documents, but there may be occasions when you need to edit an existing ASCII file - perhaps some text downloaded from a bulletin board, or a file from another computer. Select WP Mode from the Edit menu to switch from one mode to the other.

CONSIDERATIONS

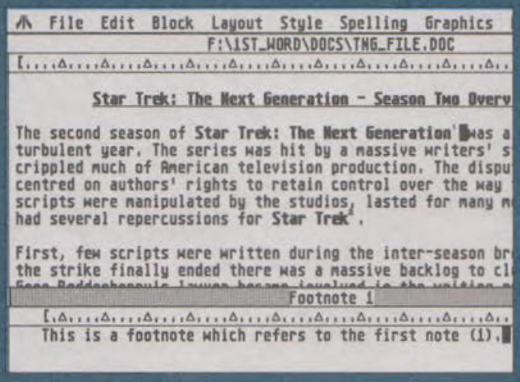
There are a couple of considerations you need to be aware of when loading plain ASCII files into ***First Word Plus***. First, each line should have a carriage return character at the end. Some computers (Apple Macintosh) don't bother doing this, so all ***First Word Plus*** sees is a long line of text! Such a file must be split up into separate lines before ***First Word Plus*** can display it.

Secondly, an ordinary ASCII file will contain "fixed width" spaces. This means that, even after you have selected WP Mode, every space between words is treated as being permanent - which prevents you from re-formatting the paragraphs, for example. To get around this you'll need to replace all of these fixed ASCII spaces with ***First Word Plus***'s own internal space characters, allowing it to break lines, justify text and so on.

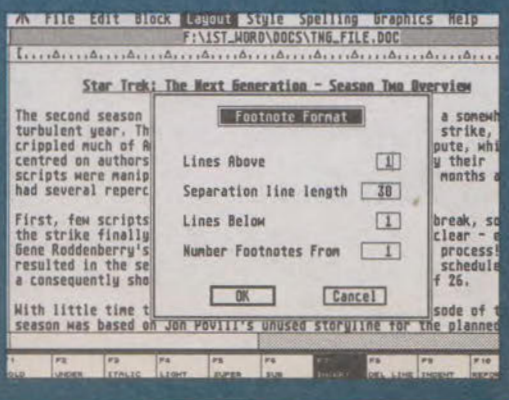
The simplest way to do this is to load the ASCII file, then activate the WP Mode and use the Replace facility to search for every space and replace them with... well, spaces! Although this may seem a little nonsensical to start with, it is essential before you can go on to do anything which involves re-formatting the document.

The only other major consideration is paragraphing. ***First Word Plus*** marks the ends of lines within a paragraph with a space followed by a carriage return.

The end of a paragraph is marked with a carriage return on its own. Many ASCII files will already use this system, but if they don't then each line of the file will be treated as a separate paragraph. To correct this you'll have to laboriously position the cursor at the end of each line and press the spacebar once.



Using the footnote editor to enter or change a footnote.



This dialogue is used to control the position and appearance of footnotes when you print your document.

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WORKING WITH

PART THREE – GRAPHICS

Last month we looked at how the mouse can be used to generate images on screen and how the TOS libraries can help when BASIC cannot. This month we will learn more about the graphic calls and the part of TOS that handles them – the Virtual Device Interface (VDI)

Before you concern yourself with the complexity of the VDI, let's try something simple. We have previously used the PRINT statement to display text on screen. This has always been the standard system font, but it can be easily changed with a little help from the VDI. Try example one to get the idea.

Vst_effects changes the current system font style, then, when text is being displayed the current style is used.

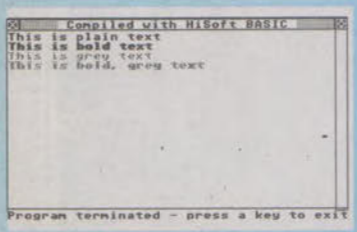
When GDOS is used in a desktop publishing program, the same styles can be applied to printer fonts as well, but this is something that would have to be shown in a specialist tutorial.

EXAMPLE 1

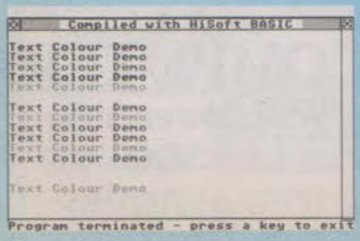
```
DEFINT a-z                    'a must when using the libraries
LIBRARY "gemvdi"              'include the vdi library

vst_effects 0
PRINT "This is plain text"
vst_effects 1
PRINT "This is bold text"
vst_effects 2
PRINT "This is grey text"
vst_effects 3
PRINT "This is bold, grey text"
```

EXAMPLE 2

```
DEFINT a-z
LIBRARY "gemvdi"

FOR i=0 to 15                 'loop and increment i
        vst_color i           'set colour to current i
        PRINT "Text Colour Demo"
NEXT i
```



Example 1.



Example 2.

TEXT COLOUR

Depending on screen resolution, text on screen can be easily set using the vst_color call (not colour, Atari is an American company, remember...). If you are using a monochrome monitor, you are running in hi-res and your choice of text colour is limited to black or white. If you use a colour monitor or colour TV with your ST, you have the choice of two screen resolutions, medium and low. At medium resolution only four colours can be viewed at any one time and two of these are black and white. At low resolution you can have 16 colours on screen. Try example 2 in low resolution.

In the example the text colour is changed 16 times, taking the value i. Try running the program at medium or high resolution and you will see that if a colour is not available, black is used instead. This means that when using the vst_color call, no compatibility problems will arise for each of the different resolutions.

EXAMPLE 3

```
DEFINT a-z
LIBRARY "gemvdi"

v_gtext 100,100,"Hello"
a$="World"                    'text variables can also be used
v_gtext 200,150,a$            'will display "World"
```

EXAMPLE 4

```
DEFINT a-z
LIBRARY "gemvdi","gemaes"

FOR i=1 to 32
        vst_height i          'set character height
        a$=STR$(i)            'convert i to a text variable
        v_gtext 100,100,a$    'display i
        evnt_timer 500        'wait for 500 milliseconds (1
                              second)
NEXT i
```

AND MORE TEXT...

Unlike the PRINT statement, which always displays text on the left side of the screen, the VDI also enables you to place text anywhere on screen.

The v_gtext call is used to pass the x and y co-ordinates along with the text. Example three shows you how to use this call.

When using the VDI to output text to screen, it is possible to use different sized characters. The vst_height call will support any value from one to 32; to quickly see the effect of the call, run the program shown in example 4.

The program introduces two new commands, the first is STR$ and this is used to convert numbers to text strings. The VDI cannot display numbers directly, so whenever you need to display a numerical value using v_gtext, you will first need to convert it by using STR$. The second call is evnt_timer, this is an AES call which is why the "gemaes" needs to be included at the top. Evnt_timer is a useful command, it simply pauses the program for the time specified in 1/1000 of a second. In the example the value 500 will make the program wait for 500 milliseconds before displaying the next value. This gives you a chance to read it on screen.

CLOCKS AND TIMERS

The ST is equipped with an internal clock and calendar, but the clock settings are lost when the computer is switched off, unless you have a Mega ST or a Forget Me

EXAMPLE FIVE

```
'program to set time and date
INPUT "Type in the time (hh:mm) ";t$          'user entry stored in
t$
INPUT "Type in the date (mm-dd-yy) ";d$       'entry is stored in d$
IF t$="" or d$="" THEN STOP                   'no input
TIME$=t$                                      'time is set to t$
DATE$=d$                                      'date is set to d$
PRINT "The time now is"
PRINT TIME$                                   'display time
PRINT "The date is"
PRINT DATE$                                   'display date
```

HISOFT BASIC

EXAMPLE SIX

```
DEFINT a-z
LIBRARY "gemvdi"

vst_height 32                    'set font size to maximum
DO
        v_gtext 90,110,TIME$
                                 'display the time
LOOP UNTIL MOUSE(2)>0            'loop until mouse is pressed
```

EXAMPLE A

```
'suggested format for all resolutions
LIBRARY "xbios"
res=fnget_rez
SELECT CASE res
                                 case 0:x=90:y=110
                                 case 1:x=...
                                 etc.
END SELECT
```

EXAMPLE SEVEN

```
DEFINT a-z
LIBRARY "gemvdi"

vst_height 32                    'set font size to maximum
MOUSE -1                         'remove the mouse
DO
        v_gtext 90,110,TIME$     'display the time
        temp$=TIME$              'the CURRENT time is tem
                                 porarily stored
        WHILE temp$=TIME$        'wait while time has not
                                 changed
        WEND
LOOP UNTIL MOUSE(2)>0            'loop until mouse is pressed
```

Clock cartridge which have a battery-backed clock. A cheaper solution is to have an auto-program allowing you to set the time on boot-up time.

BASIC enables easy access to the ST clock, and when I say easy I mean just that. Let's start by setting the time and date. When inputting the time and the date it is vital to follow the correct format.

You must input the time in a 24-hour format, with a colon separating hours from minutes and minutes from seconds. To set the ST clock to 7:30 PM for example, you type 19:30:00. The seconds entry is optional, so you may input 19:30 instead. To input the date the format is mm-dd-yy, where mm is the month, dd the day and yy is the year (Americanism again). To set the date to 15th August 1992, you type 08-15-92.

Example five on the previous page demonstrates the use of the TIME$ and DATE$ commands.

As you can see, both commands can be used to set and display the time and date. Notice a simple form of error trapping: if the user of the program doesn't enter the date the program will terminate. The program can now be compiled to disk and run directly from the desktop (don't forget to save the source and give it a name, which will be used when compiling to disk). If you want to use it from an auto folder you must change the file extension from TOS to PRG then place the program in the auto folder of your boot disk.

From now on your ST will always show the right time and date when you save files to disk and you can also install the excellent ***TimeDrive*** in your auto folder to constantly display the time on the menu bar. For obvious reasons, ***TimeDrive*** must be loaded after the time has been set.

BIGCLOCK

The VDI can be used to display the time via v_gtext instead of using PRINT. This has the added advantage of being able to place the display in the centre of the screen, use larger fonts and if running at low or medium resolutions, display coloured text as well. Example six shows this in action.

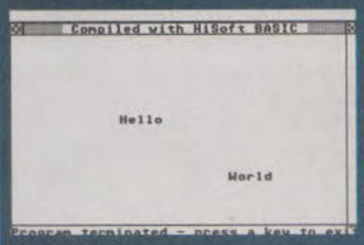
The program will display the clock in the centre of the screen if run in low resolution. You will also notice that it is updated every two seconds rather than every second as it should be. To make the program display the clock at the centre in all resolutions you can use the XBIOS call fnget_rez which we covered last month and set up the co-ordinates accordingly. If either mouse button is pressed, the loop will be exited and since there are no further commands, the program will terminate. See example A.

You may notice some flickering when running the program – this is most noticeable in high resolution. A close look at the program will show that the screen is constantly being updated, this is unnecessary, we only need to update the display every two seconds and we do not need the mouse displayed either. MOUSE -1 will remove the mouse, but how do we get round the two-second problem? Study example seven carefully.

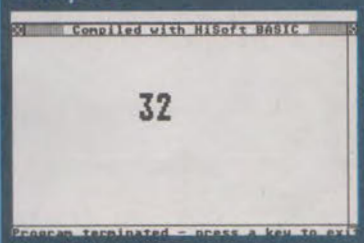
The WHILE...WEND loop is used to pause the program until the time changes, once the time is not equal to temp$ the program resumes execution and updates the screen with the new time. This is a confusing aspect of BASIC and of programming in general. Notice that once the time is displayed it is stored in the variable temp$ and then goes into the WHILE...WEND loop. Inside the loop TIME$ is still running and updated, while temp$ remains the same. After two seconds TIME$ and temp$ are no longer equal and the screen is updated. Think about it...

COLOUR CLOCK

As you know, 16 colours can be

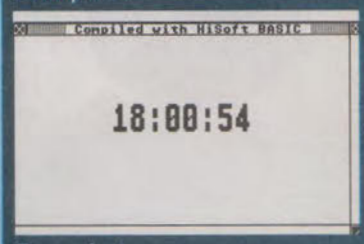


Example 3.

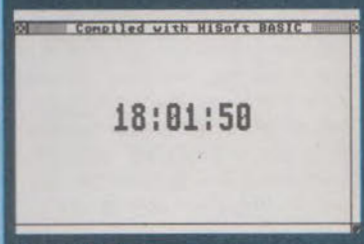


Example 4.

Example 5.



Example 6.



Example 8.

EXAMPLE EIGHT

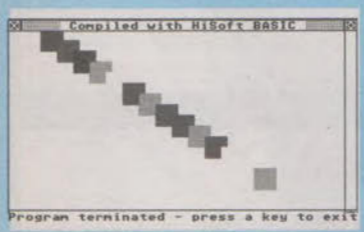
```
DEFINT a-z
LIBRARY "gemvdi"

vst_height 32                    'set font size to maximum
MOUSE -1                         'remove the mouse
c=2
DO
vst_color c                      'set colour
INCR c                           'increment c
IF c=15 THEN c=2                 'if colour c=15 make it equal to 2
v_gtext 90,110,TIME$             'display the time
temp$=TIME$                      'the CURRENT time is temporarily stored
WHILE temp$=TIME$                'wait while time has not changed
WEND
LOOP UNTIL MOUSE(2)>0            'loop until mouse is pressed
```

EXAMPLE NINE

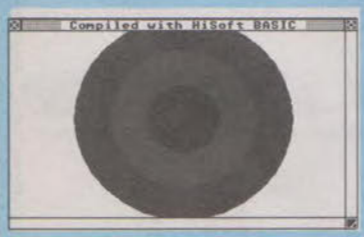
```
DEFINT a-z
LIBRARY "gemvdi"

FOR i=2 to 15
        vsf_color i             'set fill colour to i
        x=i*15                  'set x
        y=i*10                  'set y
        v_bar x,y,x+20,y+20     'draw rectangle
NEXT i
```

EXAMPLE TEN

```
DEFINT a-z
LIBRARY "gemvdi","gemaes"
FOR c=2 TO 4
        vsf_color c
        FOR r=10 to 200
        v_circle 160,100,r/c    'draw a circle with a growing
                                 radius
        evnt_timer 100          'wait for 0.1 seconds
        NEXT r
NEXT c
```



Example 9



Example 10

displayed in low resolution. The next example demonstrates how vst_color can be used to make the clock more colourful, but you will probably find other uses for the colour commands once you understand how they are used. In the program we use the INCR statement to increment the variable c which is used to determine the colour. Since 0 will display the text in white and 1 will display black, we will skip those and use values between 2 and 15. When c is 15 we must change it back to 2 and start again. See example eight.

It is interesting to note that if the Atari Control Panel desk accessory is installed, different colours will be displayed. This happens because the Control Panel modifies the Colour Palette.

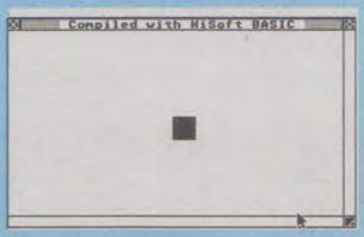
DRAWING PRIMITIVES

The VDI library has 16 predefined shapes which can be displayed by making the corresponding VDI calls, v_gtext is one of them, the others can be used to draw circles, ellipses, rectangles and other shapes. These are called Drawing Primitives. Fill patterns and colours can also be defined and set individually for each shape. In short, the VDI is the easiest and quickest way to draw on the ST.

When using the VDI primitives you must set the colours before drawing the primitive. To draw a rectangle for example, we use the v_bar call. This format of the call is v_bar x1,y1,x2,y2.

The call will draw and fill a rectangle according to the values passed in x1,y1,x2 and y2, and fill it with the current fill colour. The fill colour must be set, otherwise you will not see the rectangle as it will be filled in white. To set the fill colour we use vsf_color, which works exactly like vst_color. Example nine demonstrates just that effect.

Example 11

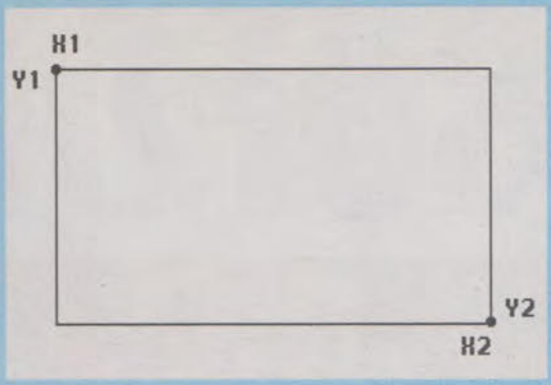


If run in low resolution, the program will display coloured boxes on screen. You can run the program in high or medium resolutions, but the effect will not be as colourful.

Circles are drawn using v_circle with three parameters - x, y and the radius, where x and y are the centre co-ordinates. The program that is carried out in example 10 (above) is a demonstration of a crude form of animation.

EXAMPLE ELEVEN

```
DEFINT a-z
LIBRARY "gemvdi","xbios"

FOR x=0 to 320          '640 if not low-res
vsf_color 4             'or any other value between 1 and 15
v_bar x,100,x+20,120    'draw a 20*20 box
vsync                   'wait for sync
vsf_color 0             'set colour to white
v_bar x,100,x+20,120    'draw a white box, deletes box
NEXT x
```



When drawing rectangles with the VDI, the x and y co-ordinates of the top left corner of the rectangle are passed as x1 and y1, while the co-ordinates of the bottom right corner are passed as x2 and y2.

NEW COMMANDS

vst_effects f - change the text style to f, value range 0 to 63
vst_color c - change text colour to c, value range 0 to 15 in low-res, 0 to 3 in med-res and 0 to 1 in high-res.
v_gtext x,y,text$ - display text at x and y co-ordinates
vst_height h - change font size to h, value range 1 to 32
v_bar x1,y1,x2,y2 - draw a rectangle at specified co-ordinates
v_circle x,y,r - draw a circle centred on x and y with radius r
vsf_color c - change fill colour to c, value range same as vst_color
vsync - an XBIOS call, used to synchronise animation
evnt_timer t - an AES call, pauses program for time specified in milliseconds
STR$(i) - convert a numeric to a text string for display with v_gtext
TIME$ - set or read the time, must have the form hh:mm:ss
DATE$ - set or read the date, must have the form mm-dd-yy.

TEXT STYLES

The VDI supports six text styles in addition to the standard system font. These are accessed via the vst_effects call and effectively modify the current font to produce bold, italic and other text styles.

The call works by passing a value to TOS and combinations of styles are achieved by simply adding the style values. The values are -

0 - Normal
1 - Bold
2 - Grey
4 - Italic
8 - Underlined
16 - Outlined
32 - Shadowed

To produce an outlined bold text style simply call vst_effects 16+1, in this way you can produce 64 different text styles although some are not as clear as others.

ANIMATION

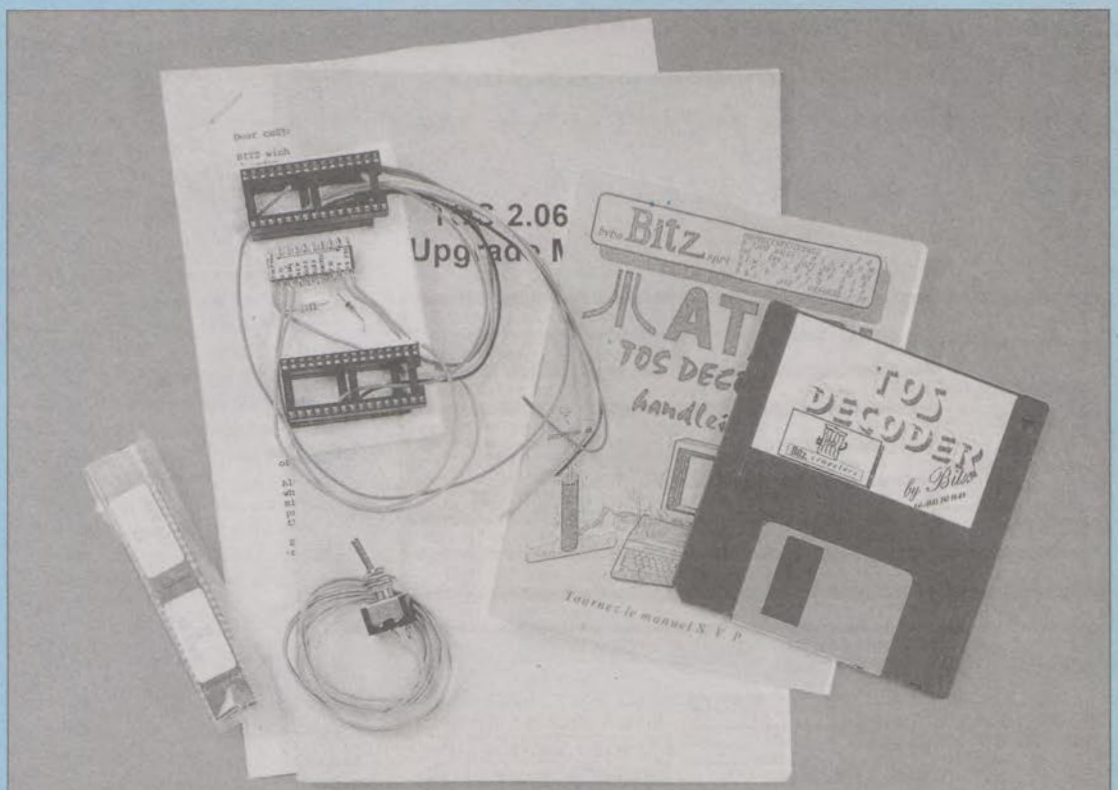
Even animation is possible with the VDI. In order to produce flicker-free animation we use the XBIOS again, and the call is vsync. This call simply synchronises the program to the scan rate of the monitor according to the resolution used (1/50 seconds in low and medium resolution, 1/70 seconds in high).To create the illusion of something moving on screen we first draw it, delete the drawing, then redraw it at a slightly different position. We can draw a rectangle, but how can you delete it? By simply redrawing it in white! The program in example 11 draws a box and moves it across the screen.

JARGON BUSTER

TOS - The Operating System, the built in program responsible for all input and output such as screen, disk, printer etc.
Virtual Device - Mostly the screen, sometimes a printer or other output devices as they are accessed in a program.
TOS Calls - Normally used to request the operating system to perform one of its tricks or to ask it what it is up to...
Strings - bits of text, words, lines of text, etc.
Parameter - a value that is passed to a BASIC command or a TOS call.
Colour Palette - On a colour monitor is used to fine tune screen colours. On a monochrome monitor it can only invert the display colours. Part of the operating system.

WIN YOUR VERY OWN TOS 2.06 UPGRADE

In association with Compo, we give you the chance to be one of the first to upgrade your ST with the new, switchable TOS 2.06. With it installed, you can switch between your existing TOS and Atari's latest TOS to maintain full compatibility with all your software



The TOS 2.06 upgrade kit. Costing £69.99 in the shops, it can be yours for the price of a stamp in our easy to enter competition.

The new TOS 2.06 is the first upgrade path for all STs that is approved by Atari. You've read the review (on page 51) and are, no doubt, dying to get your hands on the new upgrade.

TOS 2.06 has many features that set it apart from the earlier TOS versions. The ability to drag programs on to the desktop and run them from there is something you've not had before on any version of STFM or STE (unless you've bought a third party desktop such as ***NeoDesk***). Also included are keyboard macros for major functions, various icons for desktop and window applications, a printer icon, support for 1.44 Megabyte drives, the opportunity to select all items in a window for file copying and much, much more.

There is even a "no sort" option so you can see what order your files were placed in the drive.

If you want to be the envy of your friends, just answer the questions opposite and you could have your own upgrade, fitted by Compo or as a kit, for your ST/F/M/E.

The upgrade is switchable, so you can be sure of compatibility with all your software.

Just answer these simple questions.

1) Which company is producing the only officially licensed TOS 2.06 upgrade?

Answer.....

2) What option allows you to see what order the items were placed in your AUTO folder?

Answer.....

3) What is the name of the new computer from Atari?

Answer.....

Name:.....

Address:.....

.....

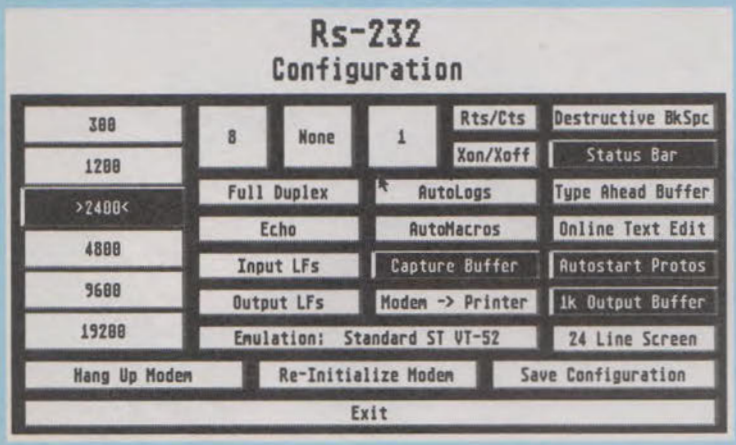
Postcode:.....

Type of ST ST/F/M ❑ STE ❑

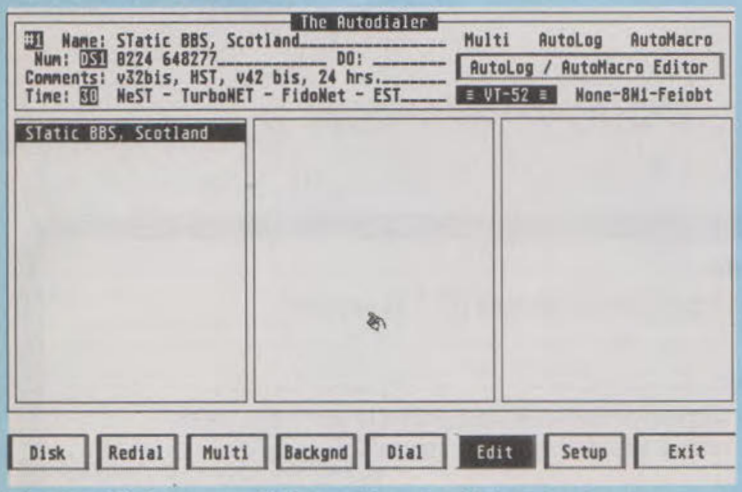
Send this coupon or a photocopy (no multiple entries) to: Upgrade Competition, Atari ST Review, Priory Court, 30-32 Farringdon Lane, London, EC1R 3AU to arrive by 19th October. The winner will receive a TOS 2.06 upgrade to fit his or her computer.

FREEZE DRIED

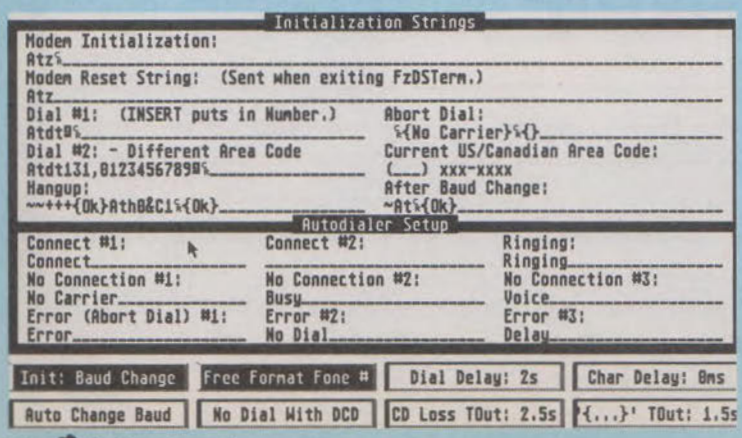
Freeze Dried Terminal (FizzDizz) is arguably the best terminal for the Atari ST. It has so many features that installation is bound to confuse many newcomers. Here, we present you with a few tips to help you get started



The RS232 configuration Menu.



The AutoDialer menu. Click on edit and add the BBS details.



The Initialisation strings menu.

STEP BY STEP

1 *Put XYZ.TTP in your protocol folder. Make sure you change the DEFAULT PATH menu later in FizzDizz to lead there. XYZ may be downloaded from many BBSs, or obtained from most good PD libraries.*

2 *If your modem supports error correction or compression, you should run a RTS/CTS patch in your AUTO folder. Most versions of TOS do not handle flow control correctly, so this causes problems if you try and send a file. There are various patches available, of which SerialFix is probably the best, and it works with all versions of TOS. Again, this is available from most BBSs. Now run FizzDizz*

3 *In the RS232 configuration menu.*

For general BBS use, settings should be eight data bits, no parity, and one stop bit. Input/output linefeeds and echo should be off. Use Full Duplex, and for ease of use, Auto Start Protocols should be enabled.

For modems with error correction or compression:-

A *Select the highest speed your modem can cope with, for example a 2400 modem with v42bis or MNP 5, then use 9600 (refer to the modem manual for more details).*

B *Enable RTS/CTS flow control. Xon/Xoff should be disabled.*

For modems without correction or compression:-

A *Select your modem's speed, eg 2400 for a v22bis modem (2400).*

B *Both XON/XOFF, and RTS/CTS should be disabled.*

4 *In the System Setup menu, MODEM INP only should be disabled.*

5 *In the Initialisation Strings menu, enable Free Format Fone and Init Baud Change. Here, you have the choice of editing two different dial prefix strings. This is useful for Mercury users. Mercury is cheaper for long distance calls, and is well worth considering. For more details, contact Mercury Communications on 0800 424194.*

6 *In the Autodialer Menu, click on EDIT and enter a few BBS numbers here! You may choose a dialling prefix to use with each BBS. For local or normal BT calls, you could have DS1, or for mercury calls, DS2. These strings are configured in the INITIALISATION STRINGS menu. At the top left of the screen, you will see various settings. To modify these, click on each with the mouse, and a menu will appear. From here, you may set the graphics type and modem/baud settings for each BBS. For example, you might want ANSI with one BBS you call, and another, you may use vt52. Once all this is completed, you simply have to click on the your selected BBS's name, and it will call.*

Freeze Dried Terminal is available from most good PD libraries, and ST BBSs. Unregistered, it's a fully usable demo, with only certain, non-essential, features limited. It may be registered in Britain by contacting Ben Van Bokkem, sysop of InterNet BBS on 0296 395935. The registration fee is £15.

TERMINAL

The following is a list of ST Review recommended Bulletin Boards. Each board is entirely specific to comms users with an ST

TELL US ABOUT IT

If you operate an ST-specific Bulletin Board and would like to appear in this list, just contact us with the details below. We're on CIX under streview if you want to send us the information or any comments you may have.

TOWN/AREA	NAME	NUMBER	TIMES	MAX SPEED	SYSOP
Aberdeen, Scotland	STatic BBS	0224-648277	24 hrs	v32bis/HST	Colin Bruce
Ainsdale, Merseyside	D-Term BBS	0704-79873	10pm-7am	2400	David McGarry
Aylesbury, Buckinghamshire	InterNet	0296-395935	24 hrs	v32bis/HST	Ben Van Bokkem
Bath, Avon	The BathTUB BBS	0225-480103	24 hrs	v32/HST	Paul Williams
Birmingham, Midlands	The Magic Castle	021-430-3761	24 hrs	v32/HST	Mick Coleman
Bournemouth, Dorset	Lightfingers Palace	0202-485723	24 hrs	2400	Richard Davies
Bradford, Yorkshire	Magnum BBS	0274-547006	24 hrs	2400	Keyop Troy
Bradford, Yorkshire	T.G.M	0274-606670	24 hrs	v32bis	Paul Simmonds
Bristol, Avon	The Laser Dome	0272-572322	24 hrs	v32bis/HST	Matthew Adlard
Cardiff, Wales	The Dream Machine	0222-341713	24 hrs	v32bis/HST	Dave Thomas
Chelmsford, Essex	The Hobbit's Burrow	0245-358667	24 hrs	2400	Andy Styles
Crewe, Cheshire	Reachout CBBS	0270-583287	8pm-8am	v32/HST	Steve Caple
Diss, Norfolk	Skull BBS	0379-740972	24 hrs	v32/HST	Iain Coates
Eastbourne	The Excelsior BBS	0323-643165	24 hrs	v32b/HST	Paul Whitaker
Folkestone, Kent	FolkeSTone QBBS	0303-245203	9pm-8am	2400	Robert Darling
Gateshead	Quanta NE	091-447-5472	5.30pm-4pm	2400	Derek Stewart
Halifax, West Yorkshire	QueST BBS	0422-381164	24 hrs	v32/HST	John Carolin
Hatfield, Hertfordshire	The Torture Chamber	0707-270945	24 hrs	HST	Steven Gee
Hull, Humberside	Midnight Resistance	0482-74943	10pm-8am	v32bis	David Bennet
Barking, Essex	The Darkside	081-591-8826	8pm-6am	v32bis/HST	Mark Atkinson
Finchley, London	The Tavern	081-445-6514	8pm-6pm	v32bis/HST	Paul Baker
Leeds, West Yorkshire	STealth BBS	0532-360887	24 hrs	v32/HST	Donald Harding
Lowestoft, Suffolk	Disabled Data Link	0502-518274	24 hrs	2400	Cliff Jones
Lowestoft, Suffolk	Disabled Data Link	0502-588505	12 pm-10am	HST	Cliff Jones
Middlesbrough, Cleveland	Cliffnet BBS	0642-467324	24 hrs	v32/HST	Clifford Cook
Nantwich, Cheshire	Money Maker	0270-71402	6pm-8am	2400	Chris Conwell
Newcastle	Sounds Digital	091-284-6019	24 hrs	v32/HST	Wally Beben
Norwich, Norfolk	Track 83	0953-851351	24 hrs	v32bis/HST	James Partner
Oxford	DacWorld IES	0867-577724	24 hrs	v32/HST	Tom Crossland
Penarth, Wales	Black Cat BBS	0222-707359	24 hrs	v32bis/HST	Mark Butler
Plumstead, London	Fortress BBS	081-317-3158	24 hrs	v32bis/HST	Kevin Osborne
Plumstead, London	MicroMola	081-316-7402	24 hrs	v32bis/HST	Roy Florentine
Rainham, Kent	Wombats Burrow II	0634-377303	24 hrs	v32	Dave Burns
Rochester, Kent	The Hotel BBS	0634-831389	24 hrs	v32bis/HST	Kit Watson
Royston, Herts	FFABBS	0763 261624	24 hrs	2400	Tony Rolt
Solihull, West Midlands	Quantum	021-707-0681	24 hrs	v32bis/HST	Paul Brownlow
Stockon-on-Tees	Mininet-3 BB	0642-672813	24 hrs	v32/HST	Mini Mansell
Stockport,Cheshire	STun	061-429-9803	24 hrs	v32/HST	Daron Brewood
Wooton Bassett, Wiltshire	My Little Phoney	0793-849044	24 hrs	v32bis/HST	Steven Green
York	System X	0904-612934	24 hrs	v32bis/HST	Paul Bulmer

ASK THE EXPERTS

Problems with printers? Hassles with hard drives? Worry no more – our panel of experts is at hand to answer your ST questions

If you have a question or problem with your ST or any of the hardware or software that you are using with it, then write it down and mail it off to our team of experts right now. We will answer all your questions.

Send your letter to Ask the Experts, ST Review, 30-32 Farringdon Lane, London EC1R 3AU.

Please remember to clearly mark on the outside of your envelope the nature of your enquiry.

STFM TO STE UPGRADE?

Now this may seem like a pretty stupid question to some people, but is it possible to upgrade my Atari 520 STFM (with a half meg upgrade) to an STE, or would I have to go the whole hog and buy a new computer?

Mark Thomas, Leighton Buzzard, Beds

No, I'm afraid the architecture does not make it practical to turn the STFM into an STE. For example, the 68000 chip is a different shape, and imagine the case-cutting for the different ports! With the price of the STE falling, you'd do much better to get a new machine.

TITLER TROUBLE

I was delighted to see that you had included the Video Titler software with your second edition. I had been considering how to combine two of my hobbies and this seemed to give me the opportunity to do this. I would have wished to purchase version two, if I had been pleased with the results.

The software works a treat, but the output to video tape decays to black and white with only the occasional smattering of colour. I had created NEO files using Hyperpaint and was using a TV as a screen. I have spoken to Laser Distribution who advised the use of a composite video lead, but they also stated that my problem was more likely to be a tuning problem.

I have tried to vary the tuning on the video recorder to no avail. The composite video lead was no help. Can you give me any other avenues to explore? I am beginning to suspect the machine itself.

J. Jenkins, Fleet, Hants

Your problem is an unusual one. There are two suggestions I can make: firstly, if the video has a scart socket, try using a lead to connect it to the monitor output of the ST. The output from this is RGB and not composite. Alternatively try using a high grade of video tape. Some of the cheaper tapes do not like to be played with in this manner, and something like BASF or SONY High Grade should help matters. Failing these, I would suggest a signal booster of some kind. Your local television shop may be able to let you try one to see if it helps.

STOS PROGRAMMING HELP

I have always created my own strategy board games and wanted to put them on to a disk. The only problem was I have never been able to obtain any information on how to do this, until now.

I recently bought a copy of your August issue of Atari ST Review, in which you are running an article entitled Create Your Own STOS Game. I have missed the last three features and would be most grateful if you could forward me copies of these features.

If at all possible, please could you tell me where I may obtain any other information relating to STOS.

Lyndon Pritchard, Newport, S. Wales

I'm afraid we don't have any back issues here to send you, Lyndon. Try our back issues department. The address is PO Box 500, Leicester, LE99 0AA. Phone 0858 410510. For STOS support, Goodmans PD offer "the only official STOS shareware service". They are at 16, Conrad Close, Meir Hay Estate, Longton, Stoke-on-Trent, ST3 1SW. You can phone them on 0782 335650

COVERDISK PROBLEMS

I have bought all of your magazines so far and found them well worth the money. It is a very good read and I will continue to buy it. However, the disks are something else. So far, out of eight disks, I have only managed to get one to work and that was the first with ST-Zine and Feeling Partner on it. The other seven all give a row of nine bombs before the screen goes blank. They will not load at all. I have just given up with them and re-formatted them to use again. One or two of the items would have been useful perhaps, but in the main, I am not bothered because I do not play games and have some cheap blank disks. I let it go the first few times but now the total of unloadable disks has reached seven, I thought you should know about it.

There may be other people who would get annoyed and be abusive about it, so perhaps you should look into it before they write to you.

A. N. Walton, Bracknell, Berks

I would suggest that there is a deeper problem at your end with such a high failure rate. Either that, or you've been terribly unlucky! With so many disks being sent out, it is inevitable that one or two will give problems, but not that many. Contact PC Wise on the number below and tell them of the problem. If it is still happening, then I would suggest a check-up of the disk drive on your machine. Before doing anything drastic, make sure that you are following the instructions carefully and that you don't have any unusual add-ons that may be affecting disk operations. Try a friend's data disks and see if they will be read by your drive.

COVERDISK PROBLEMS 2

A few weeks ago, my youngest son purchased the June edition of ST Review as part of a birthday present for his older brother. He had previously indicated a specific interest in the content of that particular issue.

During the birthday, on July 9th, an attempt was made to use the disks that came with the magazine. Sadly, our ST crashed when attempting to access Ocean's Pushover and Video Titler. The computer appears to be experiencing no problems whatsoever with any other disks.

As the magazine was part of a present, no attempt was made to load the disks prior to July 9th. It would make a disappointed 11 year old very happy if you were able to replace these disks.

P Luckham, Exeter, Devon

Many people have the odd problem when first getting into computing. There are one or two things to try before declaring the disks faulty. Try the following tips first, and if you still have problems, send them to ATARI ST REVIEW, PC Wise, Merthyr Industrial Park, Pentreebach, Mid Glamorgan, CF48 4DR, enclosing a stamped, addressed envelope, or call them between 10.30 and 12.30 during weekdays on 0443 693233.

Before panicking, things to check are that the correct resolution has been selected. Usually, games need to be run in low res-

olution. To change this, go to the 'SET PREFERENCES' option on the desktop, click on low and the computer will do the rest. Try running the program again and see if it works. If the disk has an AUTO folder with a RAMdisk in it, you will need to delete this before any programs will run. Delete the folder and its contents and cold boot the computer. This means switch it off, wait at least ten seconds and turn it on with the disk in the drive. Bear in mind that some programs are compacted so that we can cram more on to the disk for you. Follow the instructions for each program and put them on to a blank disk where requested. If all these fail, call the helpline.

EMULATION

I use a PC at work along with some good software which includes Wordstar, Autoroute, PageMaker and Timeworks II. I know it is possible for my 1040 STE to run these programs but I am unsure as to which emulator to purchase. Can you help? Would PC Ditto be able to run the programs I've mentioned? If I installed an emulator board, would I need to purchase DOS?

By the way, what a good magazine, and to boot (pun intended? Ed.) two good disks every month. Well worth the cover price. More than I can say about other ST related mags!

Ian Watson, Dresden, Stoke-on-Trent

There are several PC emulators on the market. Try the AT-Speed range from Compo (0480 891819). The company that make PC Ditto are no longer around, so you will find a lack of support for this product even if you can find it on a shelf, gathering dust. You will need DOS of some kind to run PC software. Most emulators will come supplied with it, but remember, an emulator will not run as fast as the PC you have at work. It should still be all right for the kind of things you want to do, but bear in mind that games will run comparatively slowly and some may not run at all.

I'M SURE I'VE BEEN HERE BEFORE

We have an Atari 520 STFM with Rainbow TOS (1989). We are unable to save games when playing Deja Vu and Shadowgate. The saved game seems to be on the disk but we are unable to make it play for us. Are these games still compatible with Rainbow TOS?

Also we are desperate for any tips with Shadowgate. We are unable to find a key for the door in the well room. Also we keep getting killed when we operate the levers in the cave. We would be eternally grateful if you could throw any light on this game for us.

Shirley Stocks, Preston, Lancs

Well, Shirley, there are pages of games tips for you to browse through. If anyone has any for the games you're asking about, send them to us and you could win some new software. Remember, that completed game for you could help someone like Shirley who is stuck. To get you through the two problems in Shadowgate, follow these brief instructions: In the Gargoyle cave, use the combination from the sphere room (three-two-three) on the levers. To go from the Well room to the river, operate the lever, open the bag, drop the well coin into the well, then go down.

As for the games themselves, they should both be compatible with TOS 1.4 (Rainbow TOS), so that is not your problem. Try following the instructions in the game manuals and make sure you use a blank, formatted disk for each one. Do not use any of the fancy extended formatters for this. Just use the desktop formatter as this may make the disk hard to read.

BUGGED BY VIRUSES

I have just got my Atari 520 STE and have read a lot about viruses in various mags. Can you possibly tell me how to protect against these and how to make sure that I haven't already got one? Are they really as harmful as people make out, or is it just a scare?

James Fitzpatrick, Southgate, London

No-one is really sure as to how harmful viruses are, but just in case, it's wise to make sure that they can't do any harm by killing them before they spread. The best way of avoiding a virus is to check every disk with a good virus checker like UVK (£9.95 from all good PD libraries). Make sure that the write-protect tab is on so that nothing can be written on to the disk that you don't want. Protect your games by always switching the computer off before loading a new game to allow anything stored in the memory to clear.

LIMITED ACCESS

When I go to change resolution on my 520 STE the word "high" appears to be grey and I can't click on it. Do I need more memory for the higher resolution or do I need to get a colour monitor instead of using my TV?

Thanks for a great magazine, especially last month's with First Word Plus. At long last, I can now get my spelling right!

Gordon Plowright, Bradford, Yorks

The high resolution has absolutely nothing to do with memory, and a colour monitor won't help either, I'm afraid. The only way to access Atari's high resolution mode is to buy a monochrome monitor like the SM144 (reviewed last issue). You will find that only certain programs, usually the more serious ones, will run in high resolution where it is necessary to have a lot of clear, concise detail on screen and colour is not important.

AMATEUR RADIO AGAIN

A friend of mine is interested in Amateur Radio and would like to know if you can answer the following:

1) Has the STE got a built in decoder that would do Morse code, Amtor, R.T.T.Y. and slow-scan TV?

2) Is there a program in the Public Domain or Shareware that would cover this sort of information, as we do not know enough to write our own?

He used to have a Spectrum and an Amstrad that could do the above. A commercial decoder would cost him well in excess of £500, so as you can probably imagine, neither of us would be very impressed if an eight bit machine could do something that a sixteen bit one can't.

William Brown, Irvine, Ayrshire

Well, William, I think either you or your friend – but from the sound of it, both of you – need some educating in the principles of Amateur Radio and the ST. Firstly, no computer has a "built in decoder". It's software that will allow the ST to decode R.T.T.Y., morse and anything else for that matter. There is some very good software that is currently available from the P.D. libraries. They will even cover Packet Radio, which is a system using bulletin boards to enable communication all over the world.

VIC LENNARD

Music, MIDI and sound recording.

Our very own technical editor can actually handle most enquiries that you have but as President of the UK MIDI Association, there's no-one more tuned into the ST music scene than him. A wiz with a mixing desk too, he can help with all your musical enquiries from playing music to recording.

TONY KAYE

General Problems.

Our very own Tony Kaye will look at any problems to do with your ST and its day-to-day running.

JOHN MALLINSON

Word Processors, DTP and Printers

If reincarnation is true, then John will no doubt return to this earth in the guise of a laser printer. If you have any problems with your Word Processing, DTP or printing, be it dot matrix, bubblejet, or better, then John will be the answer to your problem.

GARTH SUMPTER

Games and consumer watchdog...

Yes our very own editor will be looking at your consumer problems. Want to know where to get that game or program? Garth will know or can find out. As the consumer watchdog, he can also tell you where to get the product that you want or what to do if you're not satisfied once you've got it.

TONY DILLON

STOS/Graphics

The writer of the STOS tutorial, Tony has already imparted some little gems of information but is still on call to answer all your STOS programing questions and graphics questions.

DIAL - A - TIP

Cheats, Tips, and Game Solutions

CHEATS GALORE
0891 101 234

MEGATIP GAMESLINE
0891 445 987

ST GAMESTIPS
0891 445 787

SHADOW OF THE BEAST I AND II
BARBARIAN II SOLUTION
0891 442 022

FIRST SAMURAI HELPLINE
0891 445 926

MAGIC POCKETS/RODLAND SOLUTION
0891 445 928

COMPUTER FUNLINE
0891 445 799

WIZZ KIDD COMPUTER QUIZ
0891 101 255

FOR INFORMATION ON ALL OUR HELPLINES
0891 445 904

ALL LINES UPDATED WEEKLY
PROPRIETOR:- Jacquline Wright, Guiding Light Computer Services Limited, PO Box 17, Ashton UnderLyne, Lancs, OL7 0WW
Calls cost 36p per min at 'cheap' rate 48p per min at all other times.

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If you want to appear in this list ring Sarah on :
071 972 6700 x2433

NEW *** "THE THINKING MAN'S FOOTBALL MANAGEMENT GAME" *Am. Action*** NEW

DIVISION ONE 92 REV 1

"Fantastic. I didn't think it possible. I can SEE the results of my decisions on the field." ***Jari Samppala, Helsinki.***

THE GAME Everyone has their own ideas on what makes a soccer team "tick". Here is the opportunity to put into practice your own ideas. Operating from the English 1st division you must build a squad to challenge for the league title, the FA and League Cups and the 3 European trophies. And as players age, rebuild the team while holding off relegation.

SQUADS/TRANSFER MARKET In a 3 squad system (1st team squad, reserve squad and youth squad), use the continuous intake of youth players and training program to create a squad whose skills reflect your ideas. Supplement these skills with carefully selected transfer market acquisitions. As they age, veterans fade and youngsters develop, keep an eye on the changing skills of your team

SKILLS All players have a balance of 5 skills (no "skill levels") which you must develop by experimenting with your team. Even more important will be your judgement about the effect of the particular team balance or skill combination on the outcome of the match, and subsequently a season of football. Suitable training can develop/enhance skills.

MATCH/STATS Your judgement will be put to the test in this unique 4 minute match/stats simulation against accurately simulated opposition. This is the measure of your team and your most reliable source of information. There are displays of: match flow, two teams, player-with-the-ball, injuries, discipline, substitutions, in-match tactics, goal scorers, possession breakdown and performance assessment.

REVISION ONE
The best just got better! All updates that have been made to Division One 92 over the last six months. In addition the match screen has improved, opposition team info expanded, a European transfer market added and a few more minor changes. An edit program and a customisation program have also been added. The manual has been expanded and the packaging improved.

EDIT PROGRAM. Edit the team and players that make up Division One. Produce **your own** Division One, or Scottish League, British League, European League, German/Spanish/French/Italian...etc...etc. Or even make up a league of all the best teams you've ever seen.

CUSTOMISATION PROGRAM Customise the 45 man starting squad. Use your own favourite players, or your local side. How about as squad with Pele, Beckenbauer, Best, Cruyff, Maradonna ....?

WHAT IS DIFFERENT ABOUT THIS GAME?

Division One 92 transforms the soccer management game. You can concentrate on the football. Experiment with players, formations, team styles. Build your dream squad and check it out in accurately simulated league/cup football. Match results are from a unique soccer match. Every pass, tackle, shot etc. is determined by the players involved. Your choice of skills thus influences match results. Mental arithmetic has been dumped. Football knowledge is the name of the game.

HEAD COACH V3

"From my point of view, the game has kept me sitting up at nights and through holidays and weekends for up to 12 hours at a stretch, with miniscule breaks for food and other necessities." ***Atari User review.***

Headcoach V3 has been described as "the best game ever put onto a computer". It is the complete American Football game, a multi season epic with the very best strategic elements of the real thing. You will call the plays, devise the gameplans and develop the team.

Use the first season (2 pre-season games, 16 regular season games, and the play-offs) to discover your 45 man squad of players. Then exploit the college draft to improve the team and expand your game play to beat the very best the NFL can throw at you.

Players will age and teams will fade (a player will last about 6 seasons), but you will stay and rebuild ....

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Atari ST	❒	❒
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Current owners: replacement disk £1.50

PD AUTHORS SOUGHT

Write a program for our coverdisks and you could earn up to £500 – with a minimum payment of £50 for even the smallest of your best utilities...

If you've written any neat programs, fun games, incredible utilities, or anything that you think other people might want to see, why not turn your hard work into hard cash?

Unlike mags that offer to pay you £1000, we won't promise you the earth, but if we use your programs you may get paid a small fee, and if your work is exceptional you could earn up to £500.

You may not rate your small routine that works out every prime number between one and five, but it could be just what somebody else needs. We're also interested in seeing any outstanding PD that hasn't been around for years.

Please put your programs etc, onto a standard ST disk. Full documentation should also be included on the disk.

Send your completed form to: ST Review Coverdisk Submissions, 26 Brunswick Park Gardens, London N11 1EJ.

PLEASE NOTE THAT ALL READ-ME FILES MUST BE IN ASCII.

ST REVIEW PROGRAM SUBMISSION FORM

NAME.....

ADRESS.....

.....

.....

.....

PHONE.....

PROGRAM SIZE IN K.....

VERSION OF TOS YOU ARE RUNNING.....

PROGRAM NAME.....

ADDITIONAL FILES REQUIRED BY MAIN PROGRAM

.....

.....

BRIEF SUMMARY OF WHAT MAIN PROGRAM DOES

.....

.....

.....

.....

.....

TYPE OF PROGRAM:

- GRAPHICS/MUSIC PACKAGE ☐
- GAME ☐
- DEMO ☐
- PROGRAMMER'S TOOL ☐
- PROGRAMMER'S ROUTINE ☐
- FUN ☐

OTHER (PLEASE SPECIFY).....

PLEASE ENSURE THAT YOUR DISKS ARE VIRUS FREE AND THAT YOUR NAME, ADDRESS, AND PROGRAM NAME ARE WRITTEN ON THE DISK.

IMPORTANT

You MUST sign this declaration before your programs will be considered; "The above named program(s) are submitted for exclusive publication in ATARI ST REVIEW magazine. It/they are wholly my own work and I agree to indemnify EMAP Images against any possible legal action should copyright problems arise.

SIGNED.....

DATE.....

Your chance to have your say. Tell us your complaints or suggestions, and if you want to pat us on the back, that's OK too! We'll tell the world on the pages that you write. And if your opinion is particularly valued, as the sender of the best letter of the month, you could receive £50 worth of software. . .

LETTERS

CLASSIFIED INFORMATION

What would be the possibility of Atari ST Review publishing a classified ads page? I think this would be a great advantage to all your readers who may want to buy and sell second-hand machines and accessories.

I will be interested to hear yours and other readers' opinions.

S Hart, Oakham, Leics

We have been considering the possibility of adding a page or two of classified ads in the magazine, but one of the main problems is administering it to give you the best service. Let us know through the letters pages if you'd like us to include this service. If we get a large enough response, then we will reassess the situation.

ST OR NOT ST?

I am not an ST owner yet, but I hope to get one very soon. I bought your magazine to see what accessories you could get for the ST, and I have to admit that I was quite surprised at the range. But then I read an article that said the software houses are pulling out and I have been wondering if the ST is dying out. My second question is this. Do You think the ST will become obsolete when the Falcon is released? As for your magazine, I think it is absolutely excellent.

David Smee, Bingley, W. Yorks

Our reply to the letter of the month should answer your first question, David. As for the Falcon, it is undoubtedly going to lead to the end of the ST range, but it'll take quite some time before it becomes obsolete. The Falcon has the ability to run ST games and serious software, so to take advantage of both markets, it's in the interests of the software houses to support both machines, at least until the Falcon really takes off (no pun intended!). I should think that you'll be safe for at least two or three years yet. Oh, and by the way, thanks for the compliment about the mag, it's good to know our efforts are appreciated.

ICICLE WORKS ON THE ST

Could you please tell me if there is a game for the Atari 520 STFM called ***Icicle Works***. I had a copy on my old Commodore C16+4 and would like to know if and where I can get a copy of it.

M. Bonson,
Chesterfield, Derbyshire

The game is remembered by some of us older members of staff, and it was designed by First Star, the people who did Boulderdash. Unfortunately, we cannot trace the company as they disappeared a long time ago. If anyone knows of the company's whereabouts, let us know and we'll pass the information on.

ROOM FOR IMPROVEMENT

I am writing to tell you what I think of your magazine so that, if you want to, you can change it to be much better.

I will start at the beginning with the disk. You claim that there is £100 worth of software on it. Dr. Tiricc is worth £25 and HiSoft Basic £50, but the rest are a collection of P.D., shareware and demos. I don't really think that they have a collective value of £25.

The reviews of the printers were not very good. Apart from the fact that you have already featured it twice before, you only gave the Star LC20 68%. I think that this is grossly unfair. I have an LC20 and I know for a fact that it is worth more than 68%. It's brilliant. I have printed out hundreds of pages of essays and it has only eaten a few of them!

Your special offers bit is quite good. Well, the memories are cheap, but you can get Deluxe Paint with a mouse for only £5 more than your offer. The mouse is wrong too. You won't find a better mouse at the price (except on page 54, where the Jin mouse has a higher resolution and is cheaper).

Another good idea would be to stick a Gallery feature in. Maybe instead of the Deluxe Paint tutorial. While I'm talking about D-Paint, I have a tip. Get an Ultimate cartridge, then you can save your work on the demo version you gave away. Good, eh?

I agree with one of the people who wrote to you about games. You are giving them too much space. The ST is not a games machine. There are very few good games on the ST With the exception of Killing Cloud and Sim City, I can't think of any. If you want to play games, get a Famicom. There are plenty of good games for that. One game I would buy for the ST is Streets of Rage. I have been playing it on my brother's Megadrive, but then he sold it. When is the ST conversion coming out?

What about a feature on program packers? You could give some away on the cover disk too. I use Ivory Dragon a lot to cut down on the disk space used on a lot of my programs and it compares well with other ones I have seen. It is a bit slow and I would like to know if there are any better ones around.

The P.D. section is far and away

LETTER OF THE MONTH

Why does the decision of Electronic Arts to withdraw from ST software throw the Atari owning public into such a fit? For many years now, we have been led to believe that the ST is much more than a games machine, that it is, in fact, a "real" computer.

I feel that perhaps most of us should start believing this and stop bemoaning the fact that EA has taken this step. I doubt that they will be the only company to make this ridiculous move. But I, for one, will not let it stop me from enjoying my STE.

Perhaps this move will ring the death bell for the ST, I don't really know, or for that matter even care. I have enough games to last me for the rest of my life. The important fact to remember is that the really important software (i.e. serious software) still gets produced.

If you want to play games, buy an Amiga. And before irate Amiga owners write in to say that I am talking a load of old rubbish, I used to have one (for a short while at least).

Congratulations on a great magazine. Keep up the high standards and I'm sure that ST Review has a very long and distinguished future ahead.

Ernest Smith, Birmingham

Point taken, Ernest. The thing to remember is that the ST will only "die" if people stop using it. There are still dedicated BBC users (amongst others) out there and they will not accept that their machine is dead! They may find that the commercial software is not coming out in droves, but there are people who have spent time and money learning to program their machines, and will carry on producing what's needed. I'm not suggesting that the ST will go this way, but as technology advances, it is a possibility. Anyway, just because a couple of software houses have pulled out, it doesn't mean that they all will. Sierra has just announced that it is pulling out of the Amiga market. Does this mean that the Amiga's finished? I don't think so. The Falcon looks like breathing new life into the Atari range, boasting compatibility with the ST range as well as the advanced features needed to project computing into the future.

As for the production of serious software, this will continue, like everything else, as long as people buy it. After all, all markets are based on profit, like it or not, and this is the problem with games production. There's more to be made from producing a game on the Amiga than the ST because there are more games players, whereas the ST boasts the better serious applications and larger user base for serious use. All in all, the future looks far from bleak for Atari.

the best bit of the mag, except that it is not big enough. You should devote a few more white pages to it as well. And have more reviews. I get most of my stuff from the public domain, including this word processor, and the only thing stopping me from getting more is the fact that I don't know fully what's available.

WERCS is such a good piece of software. It came with ***HiSoft Basic 2***. So far I have spent more time using it than the Basic program. If you buy nothing else, get a copy. You can load .RSC files from other programs and mess them up. Change the boxes and really mess them up!

That's about it then, except to say that your mag is coming along and could be a rival to the others soon.
David Gunby, Oadby, Leicester.

Well, David, where do I start? Firstly, as your full letter would have filled the whole letters section, we had to pick out the more relevant points.

I will tackle all your points in the order that you presented them. Firstly, the cover disks. You state that you cannot see £25 worth of value in the remaining programs on the disks. Well, apart from an exclusive game (Island Hopping), we gave you an assortment of PD utilities and demos that would cost far in excess of £25 to buy from a PD library, so we feel that we are justified in our claim.

As for the printer review, have you tried the others that the LC20 was compared with? When a review is compiled, all of the printers are rated in relation to each other, so if the others are superior (in the view of our reviewer), it will be rated lower. We can all find reviews that we disagree with. I, myself have a Gasteiner Mega Drive (see the DIY feature in this issue) and have had no real problems with it. However, our reviewer has not rated it as highly as I would. As for D-Paint, what is the point of buying an Ultimate Cartridge when you can have the full package for less money?

For someone who doesn't like games playing you have a lot to say about them. As for great games for the ST, why don't you check out Dungeon Master, Shuttle, Elite, Kick Off, Populous or hundreds of other classics? I also don't believe that all you do is "mess up" resource files with WERCS and don't blat a few aliens from time to time. If not, then you should, because it may give you a broader outlook. By the way, messing around with resource files can be useful, but if you don't make sure that you keep the original safe, it's very easy to stop the program running properly and ruin it completely.

To finish, remember that there are others out there too. Although an article is not of interest to you, there will be thousands of others who'd disagree with your choices. A magazine such as ours needs to cater for all tastes, not just those of one person. And finally, as for saying we "could be a rival to the others soon", I think you'll find that we already are!

ARE YOU A WINNER?

Have you won our mini-printer competition? Or is £100 worth of Olympus Sports goods on its way? Find out here...

In our July issue competitions we offered you a Citizen PN48 mini-printer, £100 worth of sports goods from Olympus Sports and runner up prizes of 25 copies of ***The Games - España '92*** from Ocean. Here are all the answers and, of course, the winners.

MINI-PRINTER COMPETITION

ANSWERS:

1) The only dot matrix printer in the review is the SEIKOSHA LT20
2) The printer with the smallest memory buffer is the TOSHIBA EXPRESSWRITER 210
3) Most five star ratings went to the CANON BJ10EX
4) Lowest street price goes to the STAR SJ48
5) A tractor feeder is provided with the KODAK DICONIX.

The winning phrase was...

I think the model on the cover is saying..... "There is so much in ST Review, even the Citizen PN48 can't print it!

And the winner is..... Tony Hammond from Hove, Sussex.

Well done, Tony, your printer will be on its way to you soon.

THE GAMES, ESPAÑA '92

The answers to our sporting competition from July are as follows:

1) Venue for the 1972 Olympics where terrorists shot competitors was MUNICH.
2) The Canadian (alleged) drug taker was BEN JOHNSON.

The first name out of the ST Review bobble hat, and winner of the £100 worth of Olympus Sports goodies is John Dowbiggin from Knaresborough, North Yorkshire.

The 25 runners up, who each receive a copy of The Games - España '92 are:-

L. Ferdinando, Houghton-le-Spring, Tyne & Wear; Trevor Painter, Hull; Mrs D. Waters, Dewsbury, W. Yorks; K. Armstrong, Eastfield, Northants; Michael Smith, Lanchester, Durham; John Cribbin, Camberwell, London; Daniel Burgess, St. Ives, Cambs; Daniel Tiemann, Hagen, Germany; Martin Bray, Abbey Wood, London; A. Doherty, Woolwich Common, London; Damian Carder, Burncross, Sheffield; M. Woodhams, Hastings, Sussex; C. Wood, Rochdale, Lancs; Andrew Robertson, Edinburgh, Scotland; K. Siddiqui, Acton, London; John Gifford, Worthing, Sussex; Colin German, Bexley, Kent; Edward Barker, Barton-under-Needwood, Staffs; D. Hiley, Kingstanding, Birmingham; Owen Warren, Chapel Ash, Wolverhampton; Adrian Goodhand, Chipping Sodbury, Avon; John Edwards, Basingstoke, Hants; Ian Ellis, Ferndown, Dorset; J. Wiggins, Cheltenham, Glos; and Henry Suppiah, Milton Keynes, Bucks.

Congratulations to all our winners. Goodies will be winging their way to you very soon.

UNFAIR COMMENT

One way or another, ***Pagestream 2*** seems to be getting a bit of a raw deal in your pages. I'd like to try and balance things up.

In issue two, you printed a table of comparisons between it and ***Timeworks 2*** in which you stated that ***Pagestream***:

1) Does not have a macro facility, when, in fact, it can store 10.

2) Does not have a spell checker, when it has both a user-definable dictionary and excellent spell-checking capabilities.

3) Cannot rotate text. It will effortlessly rotate text through a full 360 degrees, in addition to slanting and twisting it.

4) Cannot tag text, when text-tagging is one of the central features of the program.

You stated that Pagestream was Timeworks' closest rival. I've used both and I consider Pagestream to be a class above in terms of flexibility, features, ease of use and the quality of its printed output.

That was in issue two, now my defence gets a little more difficult. In issue four, you printed a letter from Graham Stewart which described his disillusionment with both the program and its promotion. I have sympathy with him. When I first ran it, it crashed almost immediately. After three hours of hair-tearing, cursing and table-chewing, I had seen more bombs than Rambo.

But I persevered, and I was lucky in that I had 2.5 MB of RAM and two disk drives. In my opinion, this is the minimum hardware needed to run Pagestream 2 successfully.

Most crashes seem to occur when the program can't find a required font file, so I've now configured it to look in drive B where my fonts disk is now permanently inserted.

Mr. Stewart says that if he uses "more than a couple of fonts", the screen display becomes corrupted. Well, I've got 23 on screen simultaneously with no hassle. Maybe Mr. Stewart's problem is caused by insufficient memory (I believe he has a 1040).

As I say, I have sympathy with him. I read several reviews of Pagestream before I bought it and none of them mentioned its finicky system requirements or its bugs (yes, the program falls over occasionally, and there seems to be a problem printing the compugraphic fonts in landscape orientation).

But despite these faults, I still think that it's worth the high ratings that the reviews gave it. If you have enough RAM and two drives, and are in the market for a middle priced DTP program, then I believe Pagestream 2 to be an excellent buy, bugs and all.
Alex Bond, Guisborough, Cleveland

Wonderful thing, free choice. It's nice to have a couple of different programs to choose from in the first place. When faced with deadlines, the initial bugs can taint a reviewer's opinion of a piece of software. It's easy to dismiss a program in this situation, as he just hasn't got three hours to spend figuring out the bugs and most haven't got the hair to pull out in the first place! It does appear that our reviewer missed a couple of points. Consider his wrists well and truly slapped.

WRONG PRINTER

Did you know that on page 42 of issue 4, you have put the pictures of the printers in the wrong place? The reason that I know this is that I own a Star LC-200 printer. Please print this letter in your magazine so that everyone will know that the LC-200 is a good machine and not "fast but crude, with poor print quality".
P.S. I've just sent for an STFM upgrade from you. It is very good value, the cheapest yet.
Richard Fielding, Harrogate, N. Yorks

CHARTS

We show you the reviews, but what you buy decides which programs and peripherals are the best. Here's what your pockets say

FULL-PRICE GAMES

PACKAGE	SUPPLIER	PRICE
1 Addams Family	Ocean	£25.99
2 Sensible Soccer	Renegade	£25.99
3 Knights of the Sky	Microprose	£34.99
4 Grand Prix	Microprose	£34.99
5 Parasol Stars	Ocean	£25.99
6 Bitmap Collection	Renegade	£25.99
7 Legend	Mindscape	£29.99
8 A320 Airbus	Thalon	£34.99
9 Microprose Golf	Microprose	£34.99
10 Populous 2 (1 MB)	Electronic Arts	£25.99
11 F15 Strike Eagle 2	Microprose	£34.99
12 Harlequin	Gremlin	£25.99
13 Oh No More Lemmings	Psygnosis	£25.99
14 Graham Taylor Soccer Manager	Krisalis	£25.99
15 Epic	Ocean	£29.99
16 Titus The Fox	Titus	£25.99
17 Video Kid	Gremlin	£25.99
18 Midwinter 2	Microprose	£34.99
19 Pacific Islands	Empire	£29.99
20 Another World	US Gold	£29.99

TOP 10 ADD-ONS

PACKAGE	SUPPLIER	PRICE
1 Naksha Mouse/Op Stealth	Naksha	£29.99
2 Quickshot Python	Quickshot	£10.99
3 Zipstick Autofire	Sonmax	£14.99
4 Competition Pro Extra	Dynamix	£14.99
5 Apache 1	Quickshot	£7.99
6 Quickjoy Junior	Spectravideo	£6.99
7 Konix Speedking	Konix	£12.99
8 Competition Pro Black	Dynamix	£14.99
9 Logic 3 Gamaray	Spectravideo	£22.99
10 Alpha Ray	Spectravideo	£11.99

BUDGET GAMES

1 1st Div Football Manager	Codemasters	£7.99
2 Pang	Hit Squad	£7.99
3 Panza Kick Boxing	Kixx	£7.99
4 Rainbow Islands	Hit Squad	£7.99
5 Battle Chess	Star Performers	£10.99
6 Italia '90	Tronix	£9.99
7 New Zealand Story	Hit Squad	£7.99
8 Emlyn Hughes Soccer	Touchdown	£9.99
9 Turrican 2	Kixx	£7.99
10 Ultima Golf	GBH	£9.99
11 F-15 Combat Pilot	Action 16	£9.99
12 Rick Dangerous	Kixx	£7.99
13 Robocop	Hit Squad	£7.99
14 Bubble Bobble	Hit Squad	£7.99
15 Stunt Car Racer	Kixx	£7.99
16 James Pond	GBH	£7.99
17 Man Utd	GBH	£9.99
18 Int. Karate +	Hit Squad	£7.99
19 Shadow Warrior	Hit Squad	£7.99
20 Treasure Island Dizzy	Codemasters	£6.99

EDUCATION – TOP FIVE

PACKAGE	SUPPLIER	PRICE
1 Funschool 4 (7-11 yrs)	Europress	£24.99
2 Thomas the Tank Engine	Alternative	£24.99
3 Play & Read	Prisma	£24.99
4 Funschool 4 (5 yrs)	Europress	£24.99
5 Donald's Alphabet Chase	Infogrames	£24.99

TOP FIVE UTILITIES

1 STOS 3D	Europress	£34.99
2 Master Sound	Microdeal	£39.99
3 STOS Compiler	Europress	£24.99
4 Deluxe Paint	Electronic Arts	£49.99
5 3D Construction Kit	Domark	£49.99

National charts supplied by Microbyte.

LEARN THE LINGO

The Falcon has an incredibly impressive technical specification. For those of you who are still grappling with the language used, here are some general terms connected with computing and some that relate to the new machine

ACCESSORY
A program loaded into the ST on power-up, which can then be used whenever needed from the menu bar at the top of the main screen. Used for many reasons, usually when it is important to be able to perform functions from within other programs. Examples include clocks, calendars, notes and ramdisks. These are placed in the root directory of your boot disk (usually drive C on a hard drive) and will load automatically.

BACKUP
The act of copying the contents of your hard drive to floppy disk or tape streamer in order to protect the data. It is important to back up regularly. That way, if you have any problems, you can restore what you need to from your floppy disks.

CONTROL PANEL
An accessory program that will enable you to configure your working environment to suit your own preferences. This includes screen colours, resolution, mouse double click and response, bell sounds and keyclicks.

DMA
Direct Memory Access: the port on the back of the ST which is used for connecting a hard disk drive.

ERROR MESSAGES
A common occurrence on the ST. Not very well documented, error messages occur when something is wrong. It may not be a complete disaster. For example, an "out of memory" message may be cured by removing some accessories at boot-up.

FUNCTION KEYS
A series of keys along the top of the ST which can be programmed to provide necessary functions in particular programs.

GEM
Stands for Graphics Environment Manager. The standard ST desktop, which uses a WIMP (Windows, Icons, Mouse, Pointer) method in order to make the ST user friendly!

HEADPHONES
A socket is provided on the back of the Falcon to enable you to connect a pair of headphones and take advantage of the stereo sound. The DSP (Digital Signal Processor) should also help to create excellent sound from the new arrival.

ICONS
The little pictures that depict the programs and files in the windows and the drives and trashcan on the desktop are known as icons.

JOYSTICK
A method of controlling movement on the screen, usually used for games playing.

KEYBOARD
All of the keys on the machine. Layout is standard QWERTY with extras.

LASER PRINTER
Fast, quality printer giving very good results using laser technology. Similar to a photocopier in principle.

MODEM PORT
A noticeable change on the Falcon is that the modem port is reduced to a nine-pin port instead of the 25-way RS232 found on the ST range. This will not cause any problems. At most, an adaptor lead will be required to connect your existing modem to the Falcon.

NETWORKING
Connecting your ST to a friend's using a lead is a simple form of Networking, using one machine to control or serve others. The Falcon has a new socket on the back marked "LAN". This will make networking easier.

OUTPUT
A term used to describe what is sent to a printer or other device.

PROCESSOR
The processor is the heart of the computer. It is the chip that does most of the work. The ST has a Motorola 68000 processor running at 8Mhz, whereas the Falcon has the same processor found in the TT, the 68030, running at 16Mhz. A full 32-bit data bus (the speed of information flow) makes the machine very fast. However, the machine will also have ST compatibility, so there are very few programs that will not run.

QUIT
The command used by a lot of programs to exit.

RF MODULATOR
RF stands for radio frequency and the modulator transforms the video (RGB) output from the computer into a signal that can be picked up by a television receiver. Allows the use of a normal TV. The socket on the Falcon is marked "Television".

SCSI
Small Computer Systems Interface. This is the standard used for Atari hard drives. The Falcon has a built-in interface, making upgrading to a hard drive quicker, cheaper and easier. In fact, it will also be available with a built-in hard drive.

TOS
Stands for Tramiel Operating System, this is the basic instructions for the GEM environment. Has been updated from the original version one and the latest is version 2.06.

The Falcon will feature ***MULTITOS***, a multi-tasking version that promises great things.

USER
That's you!

VDU
Visual Display Unit – in other words, a monitor or TV. The Falcon will also allow you to connect a VGA (PC standard) monitor.

WORD PROCESSING
This is the equivalent of a typewriter on the ST. It allows you to lay out your letter properly before printing. This is easier to use with a hard drive.

X-CONTROL
Atari's new configurable Control Panel. Allows you to edit the environment for comfort in terms of colour, mouse response, keyclicks, bell and other options. This panel is able to configure other programs using files called CPXs.

ZOO
A method of compressing data which is usually used to send programs via the telephone lines when using a modem.

RAMDISK

On our cover disks, you'll have noticed the use of a ramdisk. This is to make your life a bit easier when de-compacting all the programs. The reason we use this method is so that we can make the disks even better value by putting more on them.

They work by giving an area of RAM the characteristics of a disk drive. The one on our disk gives you a 350K ramdisk and calls it drive P. You can use it as a normal disk drive, but you won't have much memory left to run any programs in it's current form (about 15K left on a 520 machine). The important thing to remember is that anything in the ramdisk will be lost when the power is turned off, so you must copy what you need onto another disk BEFORE YOU SWITCH OFF!

When you boot up a cover disk, it will automatically set up the ramdisk. To stop this, simply delete the AUTO folder on the disk, and it will run as normal.

Wherever there is news, wherever there is controversy, there will always be opinions. And this is the place to air them. One point of view set against another...

OPINION

Piracy is not a new thing on the ST and is believed to be the main factor in the current lack of support for the machine by games publishers. We look at both sides of the story this month. . .

IF YOU HAVE AN OPINION THAT YOU WANT AIRED, THEN DROP US A LINE AT: OPINION, ST REVIEW, PRIORY COURT, 30-32 FARRINGDON LANE, LONDON EC1R 3AU

Steve X has been pirating software for several years. Does he have any conscience about it?

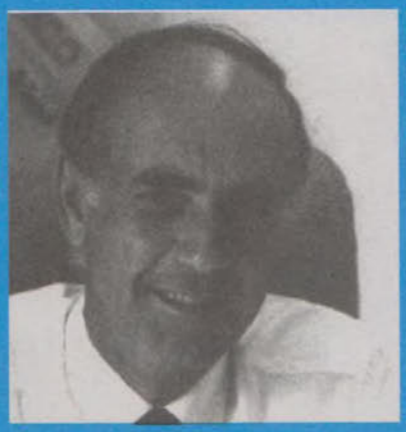
A DEAD MAN'S CHEST

Pirates say that the cost of ST software has forced them into the position of having to break to law. How can anyone justify such an illegal act?

I supplied pirated games for ages as when I first had an ST I was rather young and I didn't have the sort of money needed to constantly buy games. So it was really by necessity that I began copying programs for my own use. Eventually I could copy almost anything, but it wasn't until companies began using more sophisticated protection and password techniques that I became more "commercial" in my approach and started making up the various code wheels, colour charts and manuals in order to beat the protection.

Because I had to spend a lot of time (and money photocopying off duplicates of my labour), I started charging my friends for the work that I had to do and they were not reluctant to pay. In fact, it was friends that started to 'sell' my piracy on my behalf.

Nowadays I've stopped pirating for profit, because there are a few too many people being caught but I still find that some people still do it. And although I've really lost touch with what's happening in the playground, a quick shuffle around the bulletin boards seems to confirm that it's still big business on comms.



Roger Bennet is the General Secretary of E.L.S.P.A (European Leisure Software Producers' Association) which is an associate member of the Federation Against Software Theft.

THE JOLLY ROGER

The authorities seem to be clamping down on software theft and piracy. But just how well are they doing?

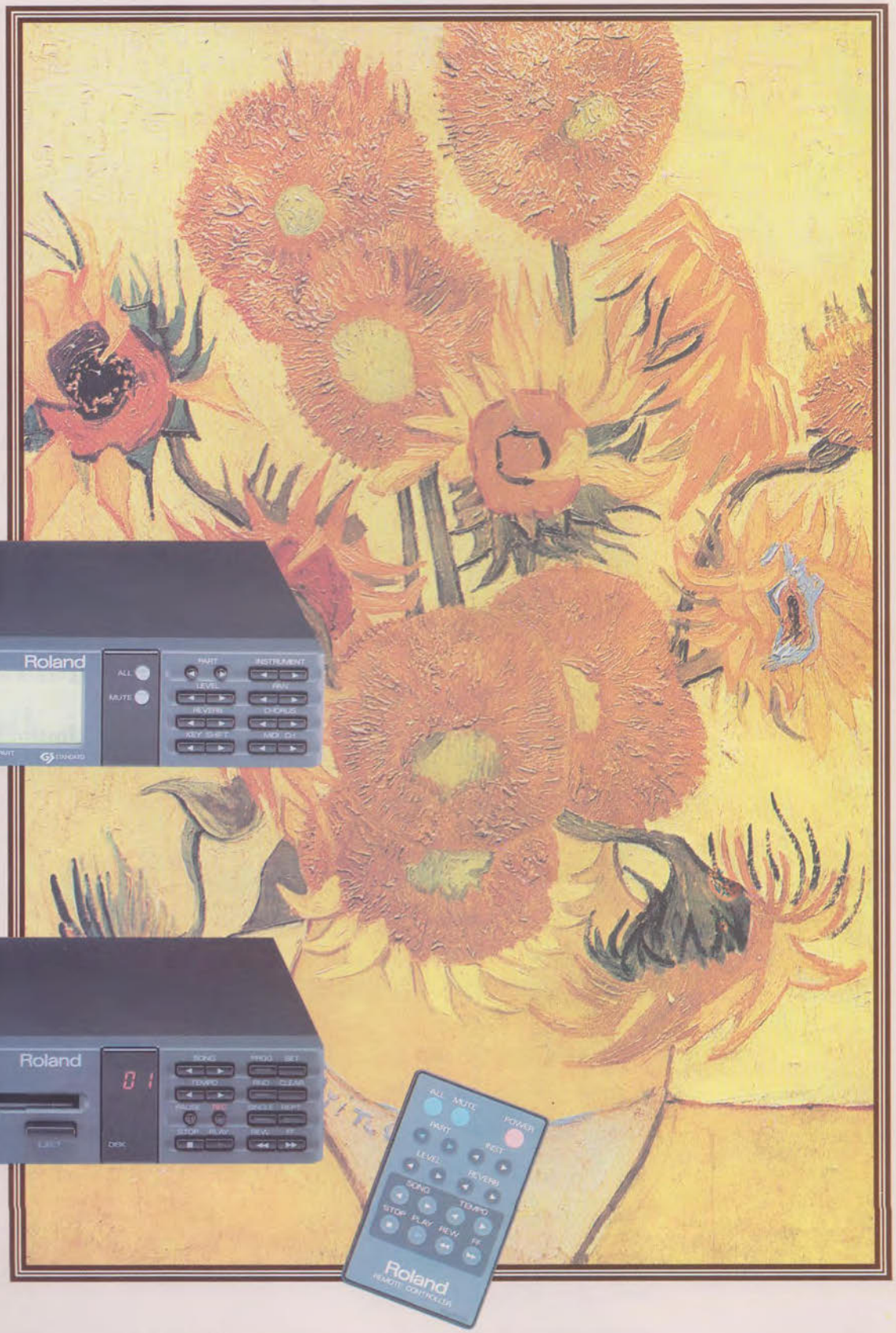
Up until June 1st this year, pursuing the criminals and thieves who copy and more specifically, re-sell copied or "pirated" software, had been underfunded and, as a result, not altogether effective. FAST is an agency funded solely by subscription from individual companies. The trouble was, the computer entertainment companies were not very forthcoming when it came to providing the "dosh" for FAST to work on their behalf. So not a lot was done.

That situation has now been completely reversed because ELSPA provides all the money necessary for FAST to have a full-time member of staff hunting down software thieves.

Who are the main targets for the man from FAST? It is those who provide the means for stolen games to be sold – bulletin boards, those who provide illegal copying devices and those who sell the stolen property.

Trading Standards Officers in each area of this country are responsible for maintaining legal trading on their patch. FAST is beginning to work much closer with them so that they understand better how to achieve a "bust" out of software theft. Trading Standards Officers know easy pickings are to be had out of the software theft business, because they have been provided with the wherewithal. In short, how to use the Copyright Act to identify stolen computer and video games. Bulletin Boards are a different animal. Some of them are completely legal. Many are not. Some not only make available stolen software, but also pornographic games, anarchistic and sadistic advice and other thoroughly nasty information.

Canvas & Brush by Roland



Sound Canvas SC-55
GS Standard MIDI Sound Source
315 sounds, 9 drum kits, 16-part multi-timbrality, 24-voice polyphony, reverb, chorus, and pan. A convenient half-rack design weighing in at only 1.5kg.

Sound Brush SB-55
MIDI File Player
CD-style Remote Control and 3.5" disk drive. Songs created on cumbersome home sequencer setups can easily be converted for live or studio use.

Whether you're sketching out a new idea or remixing an old master the Sound Canvas will allow free rein to your artistic talent. It has a palette of 315 sounds (acoustic instruments to FX and everything in between), plus 9 drumkits, reverb, chorus and pan.

The Sound Canvas adopts the GS Format, which standardises MIDI parameters for Roland equipment, and is also compatible with data prepared for MT-32 and CM-32L sound modules.

Like the Sound Brush MIDI File Player, the Sound Canvas can be operated by remote control; as a portable system the two units are ideal, at a total weight of under 3.5 kg. But most important is the sound. Suffice it to say that anyone with half an ear would go mad for this setup – and it sounds even better in stereo.

Roland

For a list of authorised dealers and a free leaflet contact:

Roland UK Ltd
Atlantic Close
Swansea Enterprise Park
Swansea
W Glamorgan SA7 9FJ
Fax 0792 310248
Tel 0792 310247

Tonight you could prang an F-19, shatter enemies from your M1 tank or have a smashing dogfight in your F15

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With incredible animated graphics putting you squarely in the hot seat, there's no excuse to be sluggish!

These realistic simulations give you a 3D perspective of combat in the sky from your jet fighter cockpit or on the ground from your tank turret. Each game demands that you use your finely honed skills to decide on strategy, missions and campaigns. More of a challenge than waiting for a rerun of Top Gun, really.

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